



Statement of Basis

Issuance date

Source Information:

Air Operating Permit (AOP) No.:	0000850
Source Name:	WestRock CP, LLC
County:	Pierce
Issued Date:	DRAFT
Effective Date	DRAFT
Expiration Date:	DRAFT
AFS Plant ID Number:	053-053-00008

Permitting Authority Information:

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Table of Contents

1.	Introduction	7
2.	Permit Authority	7
3.	Facility Information	8
4.	Source Description	9
5.	Emissions	12
6.	Compliance/ enforcement history and remedies:.....	12
7.	Overview of Permit Renewal Changes.....	14
8.	Orders and Permits Modified Or Superseded Concurrently With This Permit Renewal.....	28
9.	Applicability of Federal Air Quality Requirements: New Source Performance Standards (NSPS)	31
9.1	Standards of Performance for Kraft Pulp Mills – Subpart BB to 40 CFR Part 60.....	31
9.2	Industrial-Commercial-Institutional Steam Generating Units– Subpart Db to 40 CFR Part 60.....	32
10.	Applicability of Federal Air Quality Requirements: National Emission Standards for Hazardous Air Pollutants (NESHAP)	33
10.1	National Emission Standard for Mercury – Subpart E to 40 CFR Part 61	34
10.2	Industrial Boiler MACT Standard, Subpart DDDDD to 40 CFR Part 63.....	34
10.3	NESHAP for the Pulp and Paper Industry (MACT I) – Subpart S to 40 CFR Part 63	36
10.4	NESHAP for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills (MACT II) – Subpart MM to 40 CFR Part 63.....	37
11.	Applicability of Federal Air Quality Requirements: Subpart ZZZZ to 40 CFR Part 63, Subparts IIII and JJJJ to 40 CFR Part 60 - Reciprocating Internal Combustion Engines (RICE).....	38
12.	Source Testing and Surrogate Parameter Discussion.....	42
12.1	Monitoring and Gap Filling	42
12.2	Monitoring at Power Boiler No.6	44
12.3	Representative Source Tests.....	45
13.	Discussion of Specific Permit Conditions and Surrogate Parameters	45
13.1	HAP Emissions from Chemical Recovery Process Units (Recovery Furnace, Lime Kilns, and Smelt Dissolver Tank).....	45
13.2	Power Boiler No. 7 Boiler MACT Performance Tests.....	49
13.3	Causticizer Slaker Vent (Permit Condition F.1)	50
13.4	Pulping Process Condensates	50
13.5	Paper Machine 13 (Permit Condition O.1).....	53
14.	Applicability of Federal Air Quality Requirements: Compliance Assurance Monitoring	53
14.1	CAM Monitoring.....	63
15.	Green House Gases (GHG).....	72
16.	Regulatory Orders and Permits.....	72

17.	Facility Changes.....	73
18.	Emission Unit Description	75
19.	State-only vs. Federally Enforceable Requirements	78
20.	Applicability of State Air Quality Requirements (BACT, PSD, and LAER).....	78
21.	Discussion of General Conditions	78
21.1	General Conditions 8, 9 and 12.....	78
21.2	General Condition 10	78
21.3	General Condition 11	80
21.4	General Condition 18	81
21.5	General Condition 23	81
21.6	General Condition 45	81
22.	Discussion of Appendix B – Continuous Monitoring Recovery Requirements	81
23.	Discussion of Appendix G, No.1 – Tiered Testing Allowance.....	83
24.	Streamlining	88
25.	Permit Shield	88
26.	Insignificant Emission Units	88
	APPENDIX A: WestRock CP, LLC Tacoma Mill Site Map.....	113
	APPENDIX B: Emission Inventory	114
	APPENDIX C: Response to Comments.....	115

Table of Figures

Figure 1	Opacity vs Secondary Power for PB7	72
Figure 2.	WestRock Tacoma Mill Site Map	113

Table of Tables

TABLE 1:	SUMMARY OF 2019 CRITERIA POLLUTANTS AND VOC EMISSIONS IN TONS PER YEAR (TPY)	12
TABLE 2.	BOILER MACT LIMITS COMPARED TO PSD 06-02 LIMITS FOR PB7 FOR CO AND PM	35
TABLE 3.	RICE ENGINES AND APPLICABILITY TO ZZZZ, JJJJ, OR IIII.....	40
TABLE 4.	40 CFR PART 63 SUBPART MM LIMITS FOR CHEMICAL RECOVERY PROCESS UNITS.....	46
TABLE 5.	EAST SMELT DISSOLVING TANK SUBPART MM REPEAT PERFORMANCE TEST JUNE 10, 2021	47
TABLE 6.	LIME KILN NO. 1 SUBPART MM PERFORMANCE TEST SEPTEMBER 25, 2020	48
TABLE 7.	LIME KILN NO. 2 SUBPART MM PERFORMANCE TEST SEPTEMBER 28, 2020	48
TABLE 8.	PB7 PM AND HG PERFORMANCE TESTING AND SURROGATE MONITORING PARAMETERS - JUNE 23, 2020	49
TABLE 9.	PB7 HCL PERFORMANCE TESTING AND SURROGATE MONITORING PARAMETERS - JUNE 24, 2020	49
TABLE 10.	CAUSTICIZER SLAKER VENT PM DATA.....	50
TABLE 11.	BLEACH PLANT SCRUBBER PERFORMANCE TEST WITH WHITE LIQUOR.....	52
TABLE 12.	RECOVERY FURNACE NO. 4 CAM APPLICABILITY.....	56
TABLE 13.	SMELT TANK NOS. 4E & 4W CAM APPLICABILITY.....	57

TABLE 14. LIME KILN 1 CAM APPLICABILITY	58
TABLE 15. LIME KILN 2 CAM APPLICABILITY	58
TABLE 16. POWER BOILER NO. 6 CAM APPLICABILITY.....	59
TABLE 17. COGEN COOLING TOWER CAM APPLICABILITY	59
TABLE 18. POWER BOILER NO. 7 CAM APPLICABILITY.....	59
TABLE 19. CAUSTICIZER SLAKER VENT CAM APPLICABILITY	62
TABLE 20. RF4 CAM APPLICABLE REQUIREMENTS	64
TABLE 21. RF4 CAM MONITORING APPROACH	64
TABLE 22. CAM APPLICABLE REQUIREMENTS FOR SMELT TANKS NOS. 4E AND 4W.....	65
TABLE 23. SMELT DISSOLVING TANKS CAM MONITORING APPROACH.....	65
TABLE 24. LIME KILNS NOS. 1 AND 2 CAM APPLICABLE REQUIREMENTS	67
TABLE 25. LIME KILNS NOS. 1 AND 2 CAM MONITORING APPROACH.....	67
TABLE 26. CAM APPLICABLE REQUIREMENTS FOR PB7.....	69
TABLE 27. PB 7 CAM MONITORING APPROACH	70
TABLE 28. EMISSION UNITS AND AIR POLLUTION CONTROL EQUIPMENT	75
TABLE 29. HISTORICAL PM TESTING DATA FOR RECOVERY FURNACE NO.4.....	84
TABLE 30. HISTORICAL TESTING RESULTS FOR SMELT TANK NOS. 4E & 4W.....	85
TABLE 31. HISTORICAL TESTING RESULTS FOR LIME KILN NO.1.....	85
TABLE 32. HISTORICAL TESTING RESULTS FOR LIME KILN NO.2.....	86
TABLE 33. HISTORICAL TESTING RESULTS FOR POWER BOILER NO.7	87
TABLE 34. INSIGNIFICANT EMISSION UNITS	88
TABLE 35. 2019 EMISSIONS INVENTORY TABLE	114

Table of Equations

Equation 1. Volume of Gas per Lb-Mole at Standard Conditions	79
Equation 2. Calculation for Sulfur Concentration When Firing Oil.....	79
Equation 3. Solved Calculation for Sulfur Concentration When Firing Oil	79
Equation 4. Oxygen Correction for Sulfur Concentration When Firing Oil.....	79
Equation 5. Calculation for Sulfur Concentration When Firing Natural Gas	80
Equation 6. Solved Calculation for Sulfur Concentration When Firing Natural Gas.....	80
Equation 7 . Oxygen Correction for Sulfur Concentration When Firing Natural Gas	80

List of Abbreviations and Acronyms

BHP	Brake horsepower
Btu	British thermal units
CAA	Clean Air Act [42 U.S.C. section 7401 et seq.]
CAM	Compliance assurance monitoring
CEMS	Continuous emission monitoring system
CFR	Code of Federal Regulations
CO	Carbon monoxide
COMS	Continuous opacity monitoring system
CO ₂	Carbon dioxide
dscf	Dry standard cubic feet
Ecology	Washington State Department of Ecology
EPA	United States Environmental Protection Agency
EU	Emission unit
ESP	Electrostatic Precipitator
GHG	Greenhouse gas
gr/dscf	Grains/dry standard cubic foot (7,000 grains = 1 pound)
HAP	Hazardous air pollutant
hr	Hour
HVLC	High volume, low concentration
IEU	Insignificant emission unit
kWm	Kilowatts of mechanical power
lb	Pound
LVHC	Low volume, high concentration
MACT	Maximum Achievable Control Technology
mm	One million
NCG	Non-condensable gas
ND	Non-detect
NESHAP	National Emission Standards for Hazardous Air Pollutants (40 CFR Parts 61 and 63)
NOC	Notice of Construction
NO _x	Oxides of nitrogen
NSPS	New source performance standards
O ₂	Oxygen
PM	Particulate matter
PM ₁₀	Particulate matter with an aerodynamic diameter ≤ 10 microns
ppmdv	Parts per million, on a dry volume basis
PSD	Prevention of significant deterioration
PSEU	Pollutant Specific Emission Unit
PTE	Potential to emit
RICE	Reciprocating Internal Combustion Engine
rpm	Rotations per minute
SCR	Selective catalytic reduction

SO ₂	Sulfur dioxide
SO _x	Oxides of sulfur
SSM	Startup, Shutdown, Malfunction
tpy	Tons per year
VOC	Volatile organic compound
WAC	Washington Administrative Code

1. INTRODUCTION

This document, the statement of basis or support document, summarizes the legal and factual basis for the permit conditions in the air quality operating permit (AOP) issued by the Washington State Department of Ecology (Ecology) to the source (Permittee). When Ecology issues a draft Operating Permit, we must provide a statement that sets forth the legal and factual basis for these draft permit conditions, including references to the applicable statutory or regulatory provisions per Washington Administrative Code (WAC) 173-401-700(8).

Unlike the AOP, this document is not legally enforceable. This statement of basis summarizes the emitting processes at the facility, air emissions, permitting and compliance history, the statutory or regulatory provisions that relate to the facility, and the steps taken to provide opportunities for public review of the permit. The Permittee is obligated to follow the terms of the permit. Any errors or omissions in the summaries provided here do not excuse the Permittee from the requirements of the permit.

1.1 Permit Authority

Title V of the Federal Clean Air Act Amendments required all states to develop a renewable operating permit program for industrial and commercial sources of air pollution. The Washington State Clean Air Act (RCW 70A.15 Revised Code of Washington) was amended in 1991 and 1993 to provide the Department of Ecology and Local Air Agencies with the necessary authority to implement a state-wide operating permit program. The law requires all sources emitting one hundred tons or more per year of a pollutant subject to regulation, ten tons of a hazardous air pollutant, or twenty-five tons in the cumulative of hazardous air pollutants, to obtain an operating permit. Pollutants subject to regulation include sulfur dioxide (SO₂), nitrogen dioxide (NO₂), particulate matter (PM), carbon monoxide (CO), lead (Pb), and ozone (O₃).

Chapter 173-401 of the WAC, which specifies the requirements of Washington State's Operating Permit Regulation became effective November 4, 1993. United States Environmental Protection Agency (EPA) granted Washington's program interim approval December 9, 1994. Final approval of Washington's program was granted on August 13, 2001. The current version of the regulation was filed in August 2018 and became effective September 2018.

2. FACILITY INFORMATION

Company/Ownership:

WestRock CP, LLC

Responsible Official:

Assaad Alsemaan– General Manager

Contact:

Wayne Wooster – Environmental Manager
(253) 596-0296

Facility Location and Mailing Address:

801 Portland Avenue
Tacoma, WA 98421

Attainment Classification:

The Tacoma-Pierce County area is either in “attainment” or in “maintenance” for all regulated pollutants. EPA strengthened the national air quality health standards for PM_{2.5} in 2006. Air monitoring data showed that the Tacoma-Pierce County area persistently exceeded the PM 2.5 standard during 2004-2006 and the area was designated as “nonattainment”. Effective March 12, 2015, EPA re-designated the Tacoma-Pierce County area to attainment for the 2006 24-hour fine particle national ambient air quality standard. EPA also approved a maintenance plan that provides for continued compliance until 2025.

Basis for Title V applicability:

The facility is a major source of PM, PM₁₀, PM_{2.5}, SO₂, NO_x, CO, VOC, HCl, methanol, formaldehyde, acetaldehyde, and total HAP

Industry Classifications:

Source Industrial Classification – 2621
NCAICS – 322121

3. SOURCE DESCRIPTION

Ownership

The mill was built in 1928 under the Union Bag Company. The mill shut down during the great depression, and was later restarted as St. Regis Paper Company.

Champion International acquired St. Regis and the Tacoma Mill in 1984.

In 1985, Simpson Tacoma Kraft, LLC bought the mill from Champion International Corporation.

In 2014, Simpson Tacoma Kraft, LLC sold the mill to the RockTenn Corporation.

In 2015 RockTenn merged with the MeadWestvaco Company to form the WestRock Company. WestRock CP, LLC is the current owner and operator of the mill.

General Facility

WestRock operates an integrated pulp and paper mill on approximately 60 acres adjacent to the mouth of the Puyallup River on Commencement Bay in Tacoma, Washington (WestRock Tacoma Mill). The mill operates under standard industrial classification (SIC) code 26, pulping and papermaking. Its products include market pulp; natural and bleached Kraft paper used for linerboard, bags, sacks, and similar food and industrial grade packaging; and other paper products. Its fiber sources consist of softwood and hardwood chips, as well as recyclable materials. The mill also produces electricity from the cogeneration steam turbine. The mill operates 24 hours per day, 355 or more days per year.

A schematic showing the physical layout of the various emission units and processes which make up the WestRock Tacoma Mill is provided in Appendix A.

Chip Handling

The chip handling area includes unloading activities, transfer systems, chip storage piles, screening of wood chips, chip storage silos, control rooms, and testing facilities. Trucks and barges are unloaded and the wood chips are transferred by conveyor systems to the storage pile. Chips reclaimed from the storage pile are fed to the unscreened storage silos. Chips are fed to the screening system from the unscreened storage silos. The screening process separates the chips by size removing oversized chips and fines. The screened chips are transferred to the screened storage silos.

Biomass Handling

Predominantly biomass fuel is burned in Power Boiler No. 7. The biomass (self-generated wood, bark, on-site residuals, construction and demolition materials, urban

wood, and other forms of wood) is supplied by truck deliveries to the on-site biomass storage pile. The biomass material is fed from the storage pile to the Power Boiler No. 7 for combustion, producing steam for the mill processes and cogeneration turbine. The cogeneration turbine uses steam produced in two of the mill boilers (Power Boiler No. 7 and Recovery Furnace No. 4) to produce electricity that is then supplied into the grid. On average over the course of a year, the electric generation at the Tacoma Mill utilizes more than 98% renewable fuel for heat input.

Pulping, Washing and Bleaching

The pulping, washing, and bleaching systems produce unbleached and bleached pulp from two continuous Kamyr digesters. In the pulping process, chips from the screened storage silos are steamed and fed into the digesters. In the digesters, white liquor (a solution of water, caustic (sodium hydroxide), sodium carbonate, and sodium sulfide) from the white liquor storage tank is absorbed by the chips. The digesters use steam to heat the cooking liquor to cook the chips. The pulp is then discharged to tanks that feed the pulp to the washer line. The washer line extracts the cooking liquor and washes the pulp using wash water. The extracted liquid (dissolved wood lignin) called black liquor is pumped to the weak black liquor storage tanks. The washed pulp is sent to the high density storage tanks. Pulp is sent from the high density storage tanks to the bleaching system or to the paper or pulp drying machines.

In the bleaching system, the pulp is bleached in stages using caustic, hydrogen peroxide, oxygen, and chlorine dioxide in a series of towers and washers.

Bleaching Chemical Production and Chlorine Dioxide Generation

The chlorine dioxide generation process produces chlorine dioxide, a bleaching agent used in the pulp bleaching process. Sulfuric acid, methanol, and sodium chlorate solution react in the chlorine dioxide generator to create chlorine dioxide. The chlorine dioxide is cooled and stored for use at the bleach plant. The salt cake byproduct from the chlorine dioxide generator is filtered and used as chemical makeup into the weak black liquor.

Chemical Recovery and Steam Generation

The power and recovery systems recover the chemicals used in the pulping process and produce energy in the form of steam for the WestRock Tacoma Mill processes and cogeneration turbine. The steam production system is composed of Recovery Furnace No. 4 and Power Boilers No. 6 and No. 7. Recovery Furnace No. 4 burns black liquor and oil to produce steam and to recover pulping chemicals. Power Boiler No. 6 fires natural gas or fuel oil to produce steam. Power Boiler No. 7 fires biomass, wastewater treatment plant residuals, paper recycling residuals, natural gas, and oil, or a combination thereof to produce steam. Each of the materials combusted in Power Boiler No. 7 is defined as a fuel for the purposes of 40 CFR 63 Subpart DDDDD.

WestRock Tacoma Mill operates a steam turbine electrical generator driven by steam produced from Recovery Furnace No. 4 and Power Boiler No. 7. This allows the facility to cogenerate and distribute electric power to the grid. The power house steam turbine generator is equipped with a condenser. Non-contact cooling water passes through the Cogeneration Cooling Tower. The Cogeneration Cooling Tower emission unit has two (2) cooling tower exhausts.

The chemical recovery process is responsible for recovering chemicals needed for the Kraft pulping process. The recovery process starts by evaporating water from the weak black liquor obtained from the pulp washer. The weak black liquor is pumped into three sets of evaporators. The evaporators consist of multiple stages which concentrate the liquor to approximately 50% black liquor solids. The liquor is further concentrated to approximately 68% black liquor solids in the concentrator. To replace sulfur and sodium that has been lost throughout the recovery loop, salt cake, a by-product from the production of chlorine dioxide, is added to the weak black liquor. The black liquor and salt cake solution is then combusted in Recovery Furnace No. 4. The organic portion of the black liquor is burned producing heat. Inorganics from the solution are collected at the bottom of the furnace as a molten mass (smelt) and fall into either of two smelt dissolving tanks. In the smelt dissolving tanks, smelt is mixed with weak wash from the recausticizing process to produce green liquor. Green liquor is clarified and is then reacted with calcium oxide in the slaker to produce white liquor. To ensure a complete reaction of the green liquor and the calcium oxide, the solution is agitated in a series of mixing tanks called causticizers. The suspended solids remaining in the white liquor are separated from the liquor in a pressure filter. The resulting clarified white liquor is stored for reuse in the digesters. The separated solids or lime mud (calcium carbonate) is sent to the lime mud washer. Lime mud is filtered in the mud pressure filter or clarifiers, producing weak wash and washed mud. Weak wash is stored and later used in the smelt dissolving tanks to produce green liquor, as described above. The washed mud is filtered to remove water and then fed to the lime kilns where it is converted to calcium oxide. The calcium oxide (lime) is then stored in silos for use in the slaker.

OCC Pulp System

The OCC system uses Old Cardboard Containers (OCC) to produce pulp used by the paper machines to produce paper and board grades. The OCC raw material is delivered to the mill by truck. The OCC process uses a pulping system to break the fibers apart from the raw material with water and then a series of cleaners and washers to prepare the pulp for reuse. The OCC process produces clean pulp for the paper machines and waste material that is sorted into paper recycling residuals, which can be burned in Power Boiler No. 7, and solid waste that is sent off-site for disposal. The water used in the pulping system and sorting process is treated in the mill wastewater treatment system.

Paper Making Processes

The mill uses two paper machines to produce paper and board grades. The paper machines use unbleached pulp from the pulping process, bleached pulp from the bleaching process, and OCC pulp from the OCC system. The paper machines use steam and chemicals to produce the paper and board grades. The paper machines also create wastewater that is treated in the mill wastewater treatment system.

Wastewater Treatment

The wastewater treatment plant processes the effluent from the mill before being discharged into Commencement Bay. The wastewater flows through the primary clarifier settling the suspended solids from the wastewater. The primary effluent is pumped to a UNOX (activated sludge) treatment system that biodegrades the waste materials before discharging to secondary clarifiers. Final settling of solids occurs in the secondary clarifiers before the final effluent flows to the outfall diffuser.

4. EMISSIONS

Table 1 below shows a comparison of the facility's maximum potential emissions and the actual emissions from 2019. For a more detailed breakdown of emissions, see Appendix B of this document.

TABLE 1: SUMMARY OF 2019 CRITERIA POLLUTANTS AND VOC EMISSIONS IN TONS PER YEAR (TPY)

Pollutants	Maximum Potential Emissions (tpy)	2019 Actual Emissions (tpy)
PM	208 ¹	153 ¹
PM ₁₀	182 ¹	151 ¹
PM _{2.5}	165 ¹	148 ¹
SO ₂	1,069	223
NO _x	1,478	1,010
CO	2,817	1,632
VOC	131	116
TRS ²	42	12
Lead	0.049	0.033

(1) Filterable PM, PM₁₀, Filterable PM_{2.5}

(2) TRS includes hydrogen sulfide, methyl mercaptan, dimethyl sulfide, and dimethyl disulfide.

5. COMPLIANCE/ENFORCEMENT HISTORY AND REMEDIES:

The below list summarizes compliance and enforcement activities which occurred during the previous permit term (December 1, 2011 to present).

Power Boiler No. 7

- On August 13, 2012, Ecology issued Notice of Violation (NOV) #9441 for CO 30-day rolling average emissions greater than 0.35 lb/MMBtu reported for the period spanning May 20 through June 4, 2012. On October 11, 2012, Ecology issued a penalty, Notice of Penalty (NOP) #9522, for this violation, which the facility paid.
- On August 13, 2012, Ecology issued NOV #9441 for opacity for 36 days when averages greater than 10% may have occurred between October 2005 and June 25, 2012 due to incorrect COMS configuration. Subsequent correspondence indicated the COMS was installed and operated in a manner consistent with good practices and appropriate corrective actions were taken.
- On December 12, 2012, Ecology issued NOV #9638 for opacity greater than 10% for both North and South stacks on September 14, 2012. Subsequent correspondence indicated this was an unavoidable excess emission.

Recovery Furnace No. 4

- On September 11, 2012, Ecology issued NOV #9488 for opacity greater than 35% twice on July 30, 2012. On October 24, 2012, Ecology issued a penalty (NOP #9561) for this violation, which the facility paid.
- On August 29, 2016, Ecology issued NOV #13735 for opacity greater than 20% for two six minute averaging periods on July 19, 2016. The NOV was also issued for opacity greater than 35% for one six minute averaging period, which also occurred on July 19, 2016.
- On May 11, 2017, Ecology issued NOV #14138 for the total reduced sulfur (TRS) continuous emission monitoring system (CEMS) being down for greater than the allowable 10% of monthly unit operating time. The mill reported that the TRS CMS was down 15% of the time during March 2017.

Lime Kiln #1

- On August 13, 2012, Ecology issued NOV #9441 for total reduced sulfurs (TRS) greater than 25 ppm corrected to 10% O₂. On October 11, 2012, Ecology issued NOP #9522 for this violation.
- On June 18, 2013, Ecology issued NOV #9938 for SO₂ greater than 500 ppm on April 9, 2013. On September 4, 2013, Ecology issued NOP #10165 for this violation.

Lime Kiln #2

- On August 8, 2013, Ecology issued NOV #10082 for SO₂ greater than 500 ppm on April 9, 2013. On October 1, 2013, Ecology issued NOP #10175 for this violation.
- On January 10, 2020, Ecology issued NOV #17967 for HAP metals (PM Surrogate) measured at a concentration of 0.081 gr/scf, exceeding the limit of 0.064 gr/dscf at 10% O₂.

There are no outstanding enforcement actions.

6. OVERVIEW OF PERMIT RENEWAL CHANGES

This section documents any substantial changes in this permit renewal. Minor changes, such as references, reformatting, or typos, are not included. Where proposed permit condition numbers are different from the permit issued in 2011, the proposed condition number is cited with the previous condition noted in parentheses.

The following are notable changes that were made throughout the permit:

- Creating a specific permit condition for each limit or requirement if they were previously combined in one condition;
- The Smelt Dissolver Tank conditions were moved up to Section B and the Lime Kiln conditions were moved down to Section C;
- The CAM and Boiler MACT conditions were moved to the applicable units and the Greenhouse Gas Reporting conditions were moved to Facility Wide Condition 39;
- Added 40 CFR 64.2 and 64.6 through 64.9 CAM requirements as applicable requirements for all limits subject to CAM;
- Updated notification and reporting requirements based on requirements in 40 CFR Part 60 and 63 and WAC 173-400-105(4);
- Where possible, defined when exceedances of surrogate parameters would be considered a violation of the limit;
- Clarified start-up, shut-down, and malfunction (SSM) requirements based on both federal and state rule changes, including removal of SSM Plan requirements;
- Added semiannual reporting requirements where applicable;
- Added requirements for source test notifications and the submission of site-specific source test plans;
- Added requirements that source test reports must be submitted electronically via CEDRI and within 60 days of the source test;
- Added requirement to use water as the clean-up solvent for EPA Reference Method 5 where specified in the underlying requirement;

- Updated surrogate monitoring limits with most recent limits established during performance testing, if applicable;
- References to Administrative Orders No. 1916-AQ06 and 5157-AQ07 have been removed as they have been superseded concurrently with the issuance of this AOP. References to Administrative Order and Notice of Construction (NOC) Order No. 97AQ-I004 have been removed as it has been superseded concurrently with the issuance of this AOP. See Section 8 of this document, “Orders and Permits Modified or Superseded Concurrently With This AOP Renewal” for more information;
- NOC Orders No. 01AQIS-3114, 99AQIS-04, 4153-AQ07, and Prevention of Significant Deterioration (PSD) Permit 06-02 were modified concurrently with this AOP. Changes are noted below and also discussed in Section 8 of this Statement of Basis, “Orders and Permits Modified or Superseded Concurrently With This AOP Renewal”. More detailed information on the changes to the NOC orders and PSD permit can be found in the orders and permit themselves.

Specific significant changes are described below. As some of the changes above affected permit condition numbering, permit conditions as labeled below reflect the numbering used in the renewed permit, unless otherwise noted, with the old permit condition in parentheses, if different.

Section A: Recovery Furnace No. 4

- 40 CFR Part 60 Subpart Db (NO_x only) has been added to the list of applicable requirements directly under the heading of the Section.
- Removal of bubble limit language in Condition A.1a (A.1) (also deleted related previous Condition A.9a which included bubble limit) as the Permittee must choose to either comply with the specified limit or establish bubble limits for each applicable unit;
- An allowance to conduct one 1-hour test in lieu of three 1-hour tests for performance tests was removed from Condition A.1a (A.1). This allowance was removed from Order No. DE 99AQIS-94 which was modified concurrently with this AOP. Language regarding minimum sampling time and sample volume has been added. Testing frequency requirements have moved to Appendix G. See also “Appendix G”, below for testing frequency changes.
- Condition A.1b (A.1) previously contained an allowance for one 1-hour test, in lieu of three 1-hour tests, which has been removed, as the underlying requirement is specifically required to be averaged over three one hour tests; and

- Condition A.1c (A.3, condition 2) used to have a stipulation that it applied “when firing black liquor only”. It has been removed. Additional requirements regarding COMS span and sampling period requirements were also added.
- The underlying authority for condition A.1d (A.3, condition 3) has changed. This condition contains a PM (opacity surrogate) limit from 40 CFR Part 60 Subpart Db. This limit previously identified both Order No. DE 99AQIS-94 and Subpart Db as underlying authorities for the condition. However, it is not applicable to Recovery Furnace No.4 under Subpart Db based on language from 40 CFR 60.40b(l) which states that affected facilities that meet the applicability of both subparts Db and BB are subject to the SO₂ and NO_x standards under Subpart Db and the PM standards under Subpart BB. Order No. DE 99AQIS-04 is now listed as the only underlying authority. Although WestRock is not subject to the Subpart Db, they are still subject to the limit as it was incorporated into the original NOC.
- Condition A.2b (A.2, condition No.2) contained an outdated WAC citation under “Applicable Requirements”. It has been updated.
- Condition A.4a (A.4) has been updated to specify that the 30-day rolling average is to be calculated using operating days.
- VOC sampling required by Condition A.6 (A.7) has been reduced from semiannually to annually. This reflects the updated testing frequency in Order No. 01AQIS-3114, which was modified concurrently with the renewal of this AOP.
- Condition A.7 (A.8) has been updated to include the CEMS span required by 40 CFR Part 60 Subpart BB. The condition has also been updated to include the equation for oxygen correction required by the same regulation.
- Condition A.8a and A.8b (A.9) have been updated with additional requirements for 40 CFR Part 63 Subpart MM, including stack testing frequency, the development of site-specific test plan prior to stack testing, recordkeeping, notification, and reporting requirements.
- Condition A.8b (A.9) previously defined a violation as when opacity exceeds 35% for greater than or equal to 6% of operating time during a quarter. 40 CFR Part 63 Subpart MM has since been revised to define a violation as when opacity exceeds 35% for greater than or equal to 2% of operating time during a semi-annual period. This permit condition has been updated accordingly. This permit condition has also been updated to indicate that it is only applicable when spent pulping liquor is being fed. This is in accordance with language in 40 CFR 63.864(k). Condition A.8b (A.9) previously contained an allowance for excess HAP emissions to not be counted towards a violation if they occur during a period of startup, shutdown, or malfunction. This allowance has since been removed from 40 CFR Part 63 Subpart MM and has also been removed from the permit during this renewal process.

- Condition A.8c was added to the permit. This is a new requirement in 40 CFR Part 63 Subpart MM as of October 2017.
- Condition A.12 in the previous permit has been removed. The condition specified that WestRock may not fire Recovery Furnace No.4 with black liquor when both sides of the recovery furnace and precipitator are out of service at the same time. This permit condition could suggest that it is acceptable to operate with only one of the precipitator functioning on a regular basis. WestRock is required to operate their equipment with good pollution control practices. Consistently operating with only one side of the precipitator functioning is not a good air pollution control practice. Note that this does not necessarily preclude WestRock from operating Recovery Furnace No.4 with only one side of the precipitator in service while burning black liquor for to perform maintenance or repairs. WestRock may operate in this posture as long as good air pollution control practices are utilized (i.e, all emissions are routed to the side of the precipitator in service and duration of repairs is minimized). While operating in this posture, WestRock is still required to monitor for opacity for compliance.
- The NO_x emission algorithm in the footnote a (referenced in condition A.4b (A.5)) to the Recovery Furnace No.4 section of this permit was erroneously missing the conversion factor from lbs to tons. It has been corrected in the draft proposed permit. The underlying authority for this algorithm has been changed from Order 1916-AQ05 to Order No. 01AQIS-3114. Concurrently with the renewal of this permit, Order 1916-AQ06 was superseded by Order No. 01AQIS-3114 as it was modified to include the emission algorithm as written in Order 1916-AQ05.

Section B: Smelt Tank Nos. 4E & 4W

- The allowance for a 1 hour test instead of three 1 hour tests in Condition C.1 (B.1) has been removed. Testing frequency requirements have moved to Appendix G. See also “Appendix G”, below for testing frequency changes.
- Removed bubble limit language in B.3a (C.3) and also deleted previous condition (C.3a) which contained bubble limit language. The Permittee must chose to either comply with the specified limits or establish bubble limits for each unit.
- Conditions B.3a and B.3b (C.3) have been updated with additional requirements for 40 CFR Part 63 Subpart MM, including stack testing frequency, the development of site-specific test plan prior to stack testing, recordkeeping, notification, and reporting requirements. The clarification that black liquor solids are to be measured on a dry basis has been added to Condition B.3a. The previous permit condition also contained an allowance for excess HAP emissions to not be counted towards the 6 or more 3-hour exceedances if they occur during a period of startup, shutdown, or malfunction. This allowance has since been removed from 40 CFR Part 63 Subpart MM and has also been removed from the permit during this renewal process.

- Condition B.3b has been updated with new methods of establishing surrogate monitoring parameters for fan operations at the smelt dissolving tank. The method of establishing a surrogate monitoring parameter for smelt dissolving tank fan operations became an option for compliance when changes were made to Subpart MM on November 5, 2020.

Section C: Lime Kilns No.s 1&2

- Condition C.1 (B.1) has been updated with notification and reporting requirements. This condition contained an outdated WAC reference for O&M requirements which has been updated. Testing frequency requirements have moved to Appendix G. See also “Appendix G”, below for testing frequency changes.
- Condition C.4a and C.4b (B.4) have been updated with additional requirements for 40 CFR Part 63 Subpart MM, including stack testing frequency, the development of site-specific test plan prior to stack testing, recordkeeping, notification, and reporting requirements. Clarification has also been added that this permit condition applies when lime mud is being fed. This is in accordance with language in 40 CFR 63.864(k). The previous permit contained an allowance for excess HAP emissions to not be counted towards the 6 or more 3-hour exceedances if they occur during a period of startup, shutdown, or malfunction. This allowance has since been removed from 40 CFR Part 63 Subpart MM and has also been removed from the permit during this renewal process.
- Condition C.5b (B.6) previously referenced an alternative procedure for quality control of CEMS data for the Lime Kiln No.2 only which could be used if the Lime Kiln No.2 is operated for 20% or less of a calendar year. The procedure was called “#2 Lime Kiln Continuous TRS Emissions Monitoring System”. The AOP issued in 2011 referenced an Appendix D where the procedures were located. This appears to be in error as Appendix D is reserved in the AOP issued in 2011. It is possible that this alternative procedure is from Compliance Order No. 1916-AQ05. Ecology has removed the language referencing the alternative procedure; Compliance Order No. 1916-AQ05 is no longer applicable to WestRock concurrent with the renewal of this AOP. WestRock will be required to follow the procedures of 40 CFR Part 60, Appendix B, Performance Specification 5 to ensure quality data for their TRS CEMS for both Lime Kilns.
- Permit condition C.5b (B.6) previously read “80 ppm @ 10% O₂, 2 hours average”. This was an error. The permit condition has been corrected to “80 ppm @ 10% O₂, more than two consecutive hours”.

Section D. Power Boiler No. 6

- Condition D1.a and D1.b as labelled in the previous permit have been combined into D.1a in the proposed draft permit. The two conditions in the previous permit

contained the same limit but with different source testing frequencies when burning oil. Source testing frequencies have previously been prescribed in Order No. DE 97AQ-I004, 1916-AQ05, and 5157-AQ07 for this limit. Concurrently with the renewal of this AOP, Order No. 97AQ-I004, 1916-AQ05 and 5157-AQ07 are no longer applicable to WestRock as they have been superseded by other orders. The previous permit had language requiring source testing once every 90 days on oil if oil is fired for more than four successive days. The previous permit also had language that required source testing once every month oil is fired for more than three successive days. The previous permit required a stack test to be performed at minimum once every three years. The language in the new proposed draft permit requires monthly stack tests if Power Boiler No.6 burns oil for 216 hours in a month. If Power Boiler No.6 does not burn oil for 216 hours in a month, stack testing will need to be performed before every 720 hours it has burned oil. No stack testing is required if it only burns natural gas.

- Condition D.1 in the proposed draft permit contains language from what was labelled as D.1.c in the previous permit. D.1.c in the previous permit prescribed methods for monitoring for ash content at Power Boiler No.6. This language originated in Order No.5157-AQ07. Order No. 5157-AQ07 was rescinded concurrently with the renewal of this AOP. This requirement is instead implemented in the proposed draft permit using sufficiency monitoring. Additional language indicating when oil sampling should begin has been added.
- Condition D.3 contained an outdated WAC citation under “Applicable Requirements”. It has been updated.
- The previous permit only contained a high-level reference to Boiler MACT (40 CFR Part 63, Subpart DDDDD). This permit has been updated with more detailed requirements in Condition D.5 through D.8.

Section E. Power Boiler No.7 and Cogen Cooling Tower

- The first of the three PM limits in Condition E.2a has been removed. This limit was included in the previous permit erroneously. It was superseded and replaced per NOC Order No. 4153-AQ07. See Finding No.11 under “historical findings” in NOC Order No. 4153-AQ07, which was modified concurrently with this AOP renewal. Testing frequency requirements for Condition E.2a have moved to Appendix G. See also “Appendix G”, below for testing frequency changes.
- Clarification has been added to Condition E.2b (E.2b) that “All PM measured is to be reported as PM₁₀”. Other changes have been made to reflect changes to PSD 06-02, which was modified concurrently with this AOP. The allowance to perform one 1-hour test in lieu of three 1-hour tests has been rescinded. Each test must consist of three one-hour runs. The condition previously required the test to be performed at a boiler operating rate equal to or greater than 90% of the highest daily operating rate

within the previous three months. The condition now requires the test to be performed at a boiler operating rate equal to or greater than 90% of the highest daily operating rate within the previous six months. The minimum testing frequency has been reduced from quarterly to annually. The condition now requires testing to be performed between November 1 and April 30. See the Technical Support Document for PSD 06-02 for justification and more detailed information regarding the changes.

- The PM limit in Condition E.2c (E.2a, item 3) has been changed from 0.10 lb/mmBTU to 0.085 lb/mmBTU. The lower limit of 0.085 lb/mmBTU is applicable to units modified after February 28, 2005. The boiler was modified in 2007 with respect to PM emissions as permitted in Prevention of Significant Deterioration (PSD) Permit 06-02 and Order No. 4153-AQ07. Temperature requirements for Method 5 testing specific to Subpart Db has been added.
- Condition E.3a (E.3a) previously required the use of a COMS. In May 2016, WestRock installed a wet scrubber to comply with Boiler MACT HCl requirements. Using a COMS on a wet stack is not feasible. WestRock now uses an alternative monitoring parameter (secondary power of the ESP). This alternative monitoring parameter and limit was approved by Ecology on May 23, 2016. The alternative monitoring parameter was also incorporated into NOC Order No. 41553-AQ07, which was modified concurrently with the renewal of this AOP.
- Condition E.4a (as labelled in the previous permit) has been removed. At the time of the issuance of the 2011 permit, language under 40 CFR 60.44b(d) was last promulgated in [1986](#). 40 CFR 60.44b(d) stated that the limit was applicable “unless the affected facility has an annual capacity factor for natural gas of 10 percent or less and is subject to a Federally enforceable requirement which limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for natural gas.” WestRock did not and does not currently have an annual capacity factor of 10 percent for natural gas. In [2012](#), EPA revised the language under 40 CFR 60.44b(d) to clarify that the limit also did not apply if the boiler has an annual capacity factor of 10 percent for distillate oil. WestRock has such a limit under Condition E.5b, No.4 of the proposed draft permit. Therefore, the limit has been removed.
- The limit in condition E.4a (E.4b) has changed from 0.20 lb/MMBtu to 0.3 lb/MMBTU NOx. This change was made to reflect changes made to PSD 06-02 when it was amended on March 22, 2016. See the technical support document for PSD 06-02, Amendment 1 for more information regarding this change. PSD 06-02 and its amendments can be found on the following website: [Search for Permits](#)
- The limit in Condition E.4b (E.4c) has been changed from 522 tpy to 782 tpy NOx. This change was made to reflect changes made to PSD 06-02 when it was amended

on March 22, 2016. See the technical support document for PSD 06-02, Amendment 1 for more information regarding this change. PSD 06-02 and its amendments can be found on the following website: [Search for Permits](#)

- Equations for calculation SO₂ emissions for compliance with Condition E.5b (E.5b) have been added as a footnote to Section E.
- Condition E.5b (E.5b) has been updated to allow the use of sulfur analyses for fuel receipts as an alternative to collecting a well-mixed sample from WestRock's fuel oil tank. This change was also made to reflect updated to NOC Order No. 4153-AQ07, which was modified concurrently with the renewal of this AOP.
- Condition E.5c contained an outdated WAC reference under "Applicable Requirements" and has been corrected.
- Requirements for 40 CFR Part 61 Subpart E have been added under condition E.9d.
- Monitoring frequency in Condition E.7 (E.7) has been reduced from semi-annually to once per calendar year. This change was also made in Order No. 4153-AQ07, which was modified concurrently with the renewal of this AOP.
- The underlying authority for Condition E.16 (E.9) has been changed from Order No. 97AQ-I004 to NOC Order No.4153-AQ07. Order No. 97AQ-I004 was superseded by Order No. 4153-AQ07.
- Condition E.17 and E.18 has been added to the proposed draft permit.
- The previous permit only contained a high-level reference to Boiler MACT (40 CFR Part 63, Subpart DDDDD). This permit has been updated with more detailed requirements in Conditions E.2e-g, E.6b, E.8a-E.13.
- Condition E.11 as labelled in the previous permit has been removed. It specified that the permittee may not fire Power Boiler No.7 with hogged fuel while both sides of the precipitator are out of service. The underlying authority was cited as Order No. 97AQ-I004. Effective with the issuance of this permit, Order No. 97AQ-I004 is no longer applicable to WestRock as it has be superseded by subsequent orders. The condition has not been included in subsequent orders as it could be interpreted as an allowance to only operate with one side of the precipitator in service. The requirement as written in the previous permit has also become obsolete, as Power Boiler No.7 is subject to other monitoring provisions that require the operations of both sides of the precipitator.
- Added or clarified reporting, calculation, and records retention requirements in conditions with underlying authority of PSD 06-02 to better reflect language in PSD 06-02.

Section I (J). [RESERVED] (NESHAP SSM Plan, Recordkeeping, and Reporting)

- Section I (J) in the original permit was titled “NESHAP SSM Plan, Recordkeeping, and Reporting”. The recordkeeping and reporting requirements have been added into the permit conditions for units for which NESHAP Subparts S or MM are applicable. All of the permit conditions in this section in the previous permit have been removed or relocated, as described below. The section is now labelled “RESERVED”.
- The previous permit included references to a SSM plan for 40 CFR Part 63 Subparts S and MM in conditions J.1 through J.9 and J.11. This plan is no longer a requirement under Subparts S and MM and related permit conditions have been removed.
- Condition J.10 in the previous permit contained a requirement to “Comply with NESHAP General Reporting”. This permit condition has been removed. Instead, references to general requirements (which include reporting) have been added in each section in the draft proposed permit for which a subpart of 40 CFR Part 63 is applicable. A reference to the applicable general requirements for 40 CFR Part 63, Subpart S (Table 1 to Subpart S) is included under the heading for the following sections of the draft proposed permit: J, K, L, M, and N. A reference to the applicable general requirements for 40 CFR Part 63, Subpart MM (Table 1 to Subpart MM) is included under the heading for the following sections of the draft proposed permit: A, B, and C. A reference to the applicable general requirements for 40 CFR Part 63, Subpart DDDDD (Table 10 to Subpart DDDDD) is included under the heading for the following sections of the draft proposed permit: D and E.
- Condition J.11 in the previous permit has been removed. It contained a requirement to submit a non-binding control strategy report every two years beginning April 15, 1999. This was an interim measure while facilities moved towards compliance after 40 CFR Part 63 Subpart S was promulgated. It is no longer applicable to the Permittee.

Section J (K). Low Volume High Concentration (LVHC) System

- Condition J.1 (K.1) has been updated to specify the location that the LVHC emission streams shall be introduced into the lime kilns. The option to introduce the emissions to Power Boiler No.7 or Recovery Furnace No.4 has also been added, but only with written approval from Ecology. WestRock is currently only set up to incinerate LVHCs at the Lime Kiln Nos. 1 and 2. The requirement to obtain written approval from Ecology allows for Ecology to determine if additional permitting is necessary for the change. If it is determined that no additional permitting is needed, the facility can utilize Power Boiler No.7 or Recovery Furnace No.4 to combust NCGs without compliance issues with the permit as written. Or, if an additional permit is issued, the AOP will not require modification.

- Condition J.1 (K.13) now contains a reference to Section N, where requirements for the closed-vent collection system previously included in this section of the permit have been moved.
- The previous permit included an allowance in Condition J.2 (K.13) for excess emissions that included periods of startup, shutdown, and malfunction, per the requirements of 40 CFR 63 Subpart S. These periods did not count towards the 1% excess emissions allowed during a semiannual period. The references to inclusion of periods of start-up, shutdown, and malfunction within this 1% allowance has been removed from 40 CFR Part 63 Subpart S and has been removed during this permit renewal.

Section K (L). Pulping Process Condensates

- Condition K.1 (L.1) has been updated to provide clarity as to how the Permittee complies with condensate collection requirements. Previously, all three compliance options (40 CFR 63.446(c)(1) through (3)) were listed without indication as to how the Permittee complies. The compliance option listed in 40 CFR 63.446(c)(1) is listed as the chosen method of compliance. 40 CFR 63.446(c)(2) and (3) are also included (as they were in the original permit), but language has been added which states that written approval is required from Ecology if the facility wants to use one of the other two options. Additionally, the requirement for a CMS to be operated to measure appropriate parameters to show compliance with this condition has been added. The condition has also been updated with an option for the Permittee to assert an affirmative defense to a claim for civil penalties.
- Condition K.2 and K.3 (L.2 and L.3) has been updated with a reference to Section N, where requirements for the closed-vent system have been moved.
- Condition K.3 previously specified that gases collected from condensate collection tanks (CCTs) shall be incinerated in the Lime Kiln and/or Hog Fuel Boiler. This has been replaced with the phrase “CCT vent gases shall be incinerated as specified in Conditions J.1 and M.1”.
- Condition K.4 (L.4) previously only contained the requirement of achieving 92% destruction of total HAPs. An additional compliance option has been added which allows the Permittee to destroy a required amount of HAP per megagram of bleached or unbleached pulp. However, because the 92% destruction option is the Permittee’s current method for demonstrating compliance, additional language has been added to the condition which specifies that written approval is required from Ecology to switch to the second compliance option. This also provides clarity for how the Permittee currently complies with condensate treatment requirements.

- Condition K.5 (L.5) has been updated with a new inspection frequency of “once per calendar month, with at least 21 days elapsed time between inspections”. This was approved in a letter to WestRock dated October 22, 2014.
- Condition K.7 (L.7) previously contained references to 40 CFR 63.452(p), 40 CFR 63.443(e), and 40 CFR 63.446(g). These references have been removed because they are not applicable to WestRock’s UNOX reactor.

Section L (M). Bleaching System

- Additional information has been added to the list of applicable equipment in this section. The note “subject only as in CFR 63.445(a) and (d), 63.445(b) and (c) do not apply” has been added to the “Extraction stage washer vent” and the “Extraction stage filtrate tank”. These two vents are not required to be vented into a closed system and routed to a control device. This is only required if chlorinated compounds are introduced at the bleach stage. Chlorinated compounds are not introduced in the bleaching stage.
- Condition L.1 (M.1) has been updated to include a reference to Section N, where requirements for the closed-vent system for the bleaching system have been moved. A reporting requirement for periods of non-collection has also been added.
- Condition L.2 (M.4) has been updated with a requirement to repeat the performance tests every 5 years. The reference test method has also been added.
- The option to “use no hypochlorite or chlorine for bleaching in the bleaching system” has been removed from condition L.3 (M.5). WestRock complies with the chloroform limitations under 40 CFR 430.24. The requirement to report exceedances of these standards has been added to the condition.
- Condition L.4 combined Conditions M.6 and M.7 from the previous permit.
- Condition L.4 has been updated with results from most recent performance test. Weak wash is no longer listed as a compliance option.

Section M (N). High Volume Low Concentration (HVLC) System

- Condition M.1 (N.1) includes a reference to Section N, where additional requirements for the closed-vent systems to which 40 CFR Part 63 Subpart S is applicable have been moved.
- Condition M.1 (N.1) has also been updated with specifics as to where the HVLC stream shall be introduced into Recovery Furnace No.4. The option to introduce the emissions to Power Boiler No.7 or the lime kilns has also been added, but only with written approval from Ecology. WestRock is currently only set up to incinerate HVLC

NCGs at Recovery Furnace No.4. The requirement to obtain written approval from Ecology allows for Ecology to determine if additional permitting is necessary for the change. If it is determined that no additional permitting is needed, the facility can utilize Power Boiler No.7 or Recovery Furnace No.4 to combust NCGs without there being a compliance issue with the permit as written. Or, if an additional permit is issued, the AOP will not require modification.

- Condition M.2 (N.9) included an allowance for excess emissions that included periods of startup, shutdown, and malfunction per the requirements of 40 CFR 63 Subpart S. These periods did not count towards the 4% excess emissions allowed during a semiannual period. The references to inclusion of periods of start-up, shutdown, and malfunction within this 4% allowance has been removed from 40 CFR Part 63 Subpart S and has been removed during this permit renewal.

Section N. 40 CFR Part 63 Subpart S Standards for Enclosures and Closed-Vent Systems

The regulations in this new section apply to closed-vent systems used to convey HVLCs and LVHCs, closed-vent systems on kraft pulping process condensates, and closed vent systems on the bleach system. The regulations in this section were in the previous permit, but were instead located under the section for HVLCs, LVHCs, kraft pulping process condensates, and the bleaching system. Changes that were made as a result of this consolidation include:

- Conditions N.1 and N.2 include the statement that there must be at least 21 days between monthly inspections. Ecology approved this alternate monitoring allowance via a letter dated October 22, 2014.
- Condition N.2 previously read that “Each closed vent system (reasonably accessible ductwork, piping, enclosures, and connections.....)”. The term “reasonably accessible” has been removed.
- Condition N.5 was incorporated into the prior permit only under the HVLC and LVHC system, erroneously omitting the closed-vent system on the condensate collection and bleaching systems. This has been corrected. Additional recordkeeping and reporting requirements have been added to this condition as well.

Section O. Paper Machine 13

- This is a new section that has been added as a result of NOC No. 10948. NOC No. 10948 approved the replacement of existing refiners with more efficient units. The new section incorporates the conditions from the order.

Section P. Reciprocating Internal Combustion Engines (RICE) MACT

- WestRock operates engines that are subject to 40 CFR Part 63 Subpart ZZZZ and 40 CFR Part 60 Subpart JJJJ. This new section has been added in the permit renewal process.

Section Q. Digester Chip Conveyors

- This section is a new addition to the permit. Order No. 15833 approved the replacement of two existing cyclones with a new high efficiency cyclone in association with the chip thickness screening project. It was projected that chip processing in the screening system would increase from 2,278 bone dry tons per day to 2,349 bone dry tons per day. Conditions from this order were incorporated into permit conditions Q.1a and Q.1b.

Facility-Wide General Requirements

- Condition 8 contained an outdated reference to an opacity standard. It has been updated with the new reference and new language from WAC 173-405-040(6) has been added.
- Condition 10 contained an outdated reference to a sulfur dioxide standard. It has been updated with the new reference.
- Conditions 19, 20, 21 were added to this permit.
- Condition 23 was updated. Ecology recently revised WAC 173-400. The permit has been updated the permit to reflect that changes to WAC 173-400-107, 108, and 109. The changes will not be effective until the rules are incorporated into the state's implementation plan.
- Condition 26 was added to this permit.
- Conditions 35 and 37 were added, which include reporting requirements for stack testing and reporting requirements for Data Accuracy Assessments for CEMS and COMS.
- Condition 45 was added. There is currently no calibration requirement in the CFR for instrumentation used for surrogate parameter monitoring. This calibration requirement was added by Ecology through sufficiency monitoring detailed in 40 CFR Part 70.6.
- Greenhouse gas reporting requirements were under condition P.2 in the previous permit. Greenhouse gas reporting requirements have been moved to Facility Wide General Requirements, Condition 39.

Permit Shield

- A permit shield for 40 CFR Part 60 Subpart BB has been added for Lime Kilns Nos. 1 and 2 and Smelt Tank Nos. 4E and 4W because these emission units do not meet the applicability criteria for Subpart BB.
- A permit shield for 40 CFR Part 60 Subpart BBa has been added. No modification or construction has occurred since the applicability date of May 23, 2013.
- A permit shield for 40 CFR Part 60 Subpart BB as it specifically relates to the multiple effect evaporators, the digester system, and the brownstock washer has been added due to the fact that the units were constructed before September 24, 1976.
- A permit shield for 40 CFR 60.42b and its applicability to No.4 Recovery Furnace has been added as the furnace has not triggered the definition of a modification with respect to SO₂. This is further discussed in Section 8.2.
- The following has been removed from the permit shield: WAC 173-405-040(7), WAC 173-405-077, WAC 173-435-040(1), WAC 173-435-060(5), and Chapters 173-470, 474, 475, 480, 481 WAC; Ambient Air Quality Standards.

Appendix B

- Condition 1 in Appendix B previously contained a minimum data recovery requirement for all CMS of 90% during the monthly unit operating time. This was changed to a requirement of 95% minimum data recovery during the monthly unit operating time, but is only applicable to CEMS required under an order, PSD permit, or regulation issued by the permitting authority. This 95% data recovery requirement was erroneously omitted in the previous permit. See Section 25 of this document for more information.
- The 90% data recovery requirements previously in Condition 1 were incorporated into Conditions 2 and 3, which contain requirements for CMS required by federal MACT and NSPS regulations. The 90% data recovery was implemented using sufficiency monitoring (40 CFR 70.6(c)(1)). Ecology believes that the Permittee must be held to some minimum level of data collection to ensure compliance. Required sampling was also incorporated into Conditions 2 and 3. See section 25 of this document for more information.

Appendix G

- Appendix G is a new section of the AOP. The tiered testing allowance in Appendix G, No.1 was previously incorporated into individual permit conditions A.1a (A.1) and C.1 (B.1). It previously read as follows: “the Permittee shall source test quarterly if 6 consecutive monthly source tests results are all below 75% of the emissions

limitation. If any single test result exceeds 75% of the limitation, source testing shall revert to a monthly frequency until 6 consecutive monthly source test results are all below 75% of the limitation". The tiered testing allowance has been modified to include additional options to drop down to a semiannual or annual testing frequency depending on how closely to the limit the emission unit operates. The requirements for increasing or reducing monitoring frequencies have also changed. This tiered testing allowance has newly been applied to conditions B.1 (C.1) and E.2a, which previously only required quarterly testing. See Section 23 of this document for more information.

7. ORDERS AND PERMITS MODIFIED OR SUPERSEDED CONCURRENTLY WITH THIS PERMIT RENEWAL

The following Orders were superseded concurrently with the issuance of this permit.

Administrative and NOC Order No. 97AQ-I004

On June 25, 1997, Order No. DE 97AQ-I004 was issued. This was a reissuance of the previously issued Order No. DE 95AQ-I007 (issued April 7, 1995) with minor amendments. Order No. DE 97AQ-I004 was further modified on June 27, 1998 and March 17, 1999.

Order No. DE 97AQ-I004 was a consolidation of all administrative orders, consents, and letters issued by Ecology to Simpson (the Permittee at the time of issuance) to date. It also consolidated the NOC approval order for Power Boiler No.7 which was originally issued as Order No. DE 91-AQI089 on November 7, 1991.

Concurrent with the drafting of this AOP renewal, Ecology reviewed the contents of Order No. DE 97AQ-I004 and determined that the contents of Order No. DE 97AQ-I004 have either been superseded by orders issued later, or have become obsolete.

All limits in Order No. DE 97AQ-I004 which originated from Order No. DE 91-AQI089 were later superseded by limits in NOC Order No. 4153-AQ07 and Prevention of PSD Permit 06-02 which were issued on May 23 and May 27, 2007 respectively. NOC Order No. 4153-AQ07 and PSD Permit 06-02 were issued to approve a modification to Power Boiler No.7. All other conditions in Order No. DE 97AQ-I004 acted as an administrative order; they summarized all applicable state requirements prior to the issuance of WestRock's first AOP. Now that WestRock operates under an AOP, it is more appropriate for the state requirements to be under the AOP only to avoid redundancy.

Therefore, concurrent with the reissuance of this AOP, Order No. DE 97AQ-I004 will be rescinded and will no longer be applicable to WestRock as it has been superseded by subsequent orders and the AOP itself.

Administrative Order No. 1916-AQ05

Administrative Order No. 1916-AQ05 was issued on July 16, 2005 and made changes to the following existing orders by reference: 99AQIS-04, 01AQIS-3114, and 97AQ-I004. However, Orders Nos. 99AQIS-04, 01AQIS-3114 and Orders Nos. 97AQ-I004 were not modified concurrently at the time of issuance of Order No. 1916-AQ05.

Concurrent with the renewal of this AOP, Ecology modified Orders Nos. 99AQIS-04 and 01AQIS-3114 and incorporated that changes which Order No. 1916-AQ05 made. Orders Nos. 99AQIS-94 and 01AQIS-3114 were made available for public comment concurrently with the draft AOP. These modifications rendered No. 1916-AQ05 obsolete.

Therefore, concurrent with the reissuance of this AOP, Order No. 1916-AQ05 will be rescinded and will no longer applicable to WestRock as it has been superseded by subsequent orders.

Administrative Order No. 5157 AQ07

Administrative Order No. 5157 AQ07 was issued on October 10, 2007. The Order placed additional monitoring and fuel requirements on Power Boiler No.6 when oil is being used as fuel. The Order was an attempt to ensure compliance with PM limits at Power Boiler No.6 when it combusts oil. The issuance of an administrative order can be an effective way to address compliance issues quickly without the need for modifying a permit. However, Ecology has the authority to incorporate additional monitoring in the AOP rather than an Administrative Order. This authority is under 40 CFR 70.6(c). 40 CFR 70.6 (c) requires testing, monitoring, reporting, and recordkeeping requirements to assure compliance with the limits in the AOP. Ecology will instead implement the monitoring requirements in the AOP. This will give Ecology the flexibility to make changes to monitoring requirements in future AOP renewals without needing to modify an order in addition to the AOP. Similar monitoring requirements to those in Order No. 5157-AQ07 have been incorporated into the AOP with 40 CFR 70.6(c) as the underlying authority.

Therefore, concurrent with the reissuance of this AOP, Order No. 5157-AQ07 will be rescinded and will no longer applicable to WestRock.

WestRock proposed to modify the following orders concurrently with this permit. Brief descriptions of the more significant changes in each order are included below. The orders themselves contain more detailed information regarding the changes. The draft orders were made available for public comment at the same time as the draft proposed permit.

NOC Order No. 99AQIS-94

NOC Approval Order No. DE 99AQIS-94 was issued on January 24, 2000. NOC Order No. DE 99AQIS-94 approved modifications to Recovery Furnace No.4. Modifications included

the replacement of an indirect liquor heater and the installation of a third level of combustion feed air (tertiary air). Concurrently with the renewal of WestRock's AOP, Order No. DE 99AQIS-94 was modified. The following main changes were made:

1. The changes to Order No. DE 99AQIS-94 made by reference in Order No. 1916-AQ05 were incorporated.
2. Particulate stack testing frequencies at Recovery Furnace No.4, originally required at a minimum quarterly, have been revised to be required annually. See Order No. 99AQIS-94 for justification and compliance history. Note that the Permittee may still be subject to more frequent testing depending on performance per Appendix G of this AOP.

NOC Order No. 01AQIS-3114

NOC Approval Order No. DE 01AQIS-3114 was issued on July 25, 2001 in accordance with RCW 70.94.152, WAC 173-400-110, and WAC 173-460-040. NOC Order No. DE 01AQIS-3114 approved the replacement of two existing laminar air heaters at Recovery Furnace No.4 with an economizer. Concurrently with the renewal of WestRock's AOP, Order No. 01AQIS-3114 was modified. The following main changes were made:

1. VOC stack testing frequencies at Recovery Furnace No.4, originally required semiannually, have been revised to be required annually. See Order No. 01AQIS-3114 for justification and compliance history.
2. The incorporation of changes to Order No. DE 01AQIS-3114 made by reference in Order No. 1916-AQ05.

NOC Order No. 4153-AQ07

NOC Approval Order No. 4153-AQ07 was issued on May 23, 2007 in accordance with RCW 70.94.152, WAC 173-400-110, and WAC 173-460-040. NOC Order No. 4153-AQ07 approved the installation of a 60-MW steam cogeneration unit as well as improvements to Recovery Furnace No.4 and Power Boiler No.7. Concurrently with the renewal of WestRock's AOP, Order No. 01AQIS-3114 was modified. The following main changes were made:

1. The requirement to operate a continuous opacity monitoring system (COMS) on Power Boiler No.7 has been removed and replaced with a requirement to maintain surrogate monitoring parameters. In 2016, after NOC Order No. 4153-AQ07 was issued, WestRock installed a wet scrubber on the Power Boiler No.7 Stack. COMS are not suitable monitoring systems for stacks with wet scrubbers.
2. VOC stack testing frequencies, originally required semiannually, have been revised to be required annually. See Order No. 4153-AQ07 for justification and compliance history.

3. Sulfur content monitoring requirements have been updated to include an option to retain fuel oil analyses for each fuel delivery rather than requiring sampling from facility tankage.

PSD-06-02

PSD Permit No. 06-02 was issued on May 22, 2007 in accordance with 40 CFR Part 52 and WAC 173-400-700. This permit approved the installation of a steam turbine generator which is driven by steam produced from Recovery Furnace No. 4 and Power Boiler No. 7. PSD Permit 06-02 was modified for the first time on March 22, 2016. Concurrently with the renewal of WestRock's AOP, PSD 06-02 was modified for a second time. The following main changes were made:

1. Particulate matter stack testing frequencies at Power Boiler No.7, originally required at minimum quarterly, have been revised to be required annually. See PSD 06-02 for justification and compliance history.
2. Stack testing duration at Power Boiler No.7 was increased from one to three hours. In Amendment 1, compliance was demonstrated using an average of three quarterly tests. In Amendment 2, the results of one test will determine compliance with the daily average particulate limit.

8. APPLICABILITY OF FEDERAL AIR QUALITY REQUIREMENTS: NEW SOURCE PERFORMANCE STANDARDS (NSPS)

WestRock operates emission units which are subject to 40 CFR Part 60 – New Source Performance Standards (NSPS). Applicable subpart are: Subparts A, BB, Db, and JJJJ (adopted by reference in WAC 173-400-115). The subparts are discussed in more detail below, with the exception of Subpart A, which contains the general provisions of Part 60.

Subpart JJJJ is not discussed in more detail in this section, but instead in Section 11 of this document “Applicability Of Federal Air Quality Requirements: Subpart ZZZZ To 40 CFR Part 63, Subparts IIII And JJJJ To 40 CFR Part 60 - Reciprocating Internal Combustion Engines (RICE)”, where it is discussed in relation to other rules which are related to reciprocating internal combustion engines.

8.1 Standards of Performance for Kraft Pulp Mills – Subpart BB to 40 CFR Part 60

The new source performance standard for kraft pulp mills was promulgated in 1976 and became final in 1978. The rule was modified and amended by the EPA in 1985 and 1986. The standards limit emissions of TRS and particulate matter from new, modified, and reconstructed kraft pulp mills. The standard is applicable to digester systems, brown stock washer systems, multiple effect evaporator systems, recovery furnaces, smelt dissolving tanks, lime kilns, and condensate stripper systems that are constructed, reconstructed, or modified after September 24, 1976.

Recovery Furnace No.4 became subject to Subpart BB when it was modified after September 24, 1976. The project to modify Recovery Furnace No.4 was permitted by Order No. DE 99AQIS-94. For a full list of orders and a description of the projects which were permitted, see Appendix F of the AOP.

The smelt dissolving tanks, lime kilns, digester systems, and brown stock washer system are not subject to Subpart BB because they were not constructed, reconstructed, or modified after September 24, 1976.

8.2 Industrial-Commercial-Institutional Steam Generating Units– Subpart Db to 40 CFR Part 60

Subpart Db was proposed in 1986 and finalized in 1987. The rule was amended in 1989, 2007, 2009, 2012, and 2014. Subpart Db contains standards for SO₂, PM, and NO₂. Industrial-commercial-institutional steam generating units are boilers that are capable of combusting over 10 MMBtu/h of fuel. Subpart Db covers industrial-commercial-institutional steam generating units with heat inputs greater than 100 MMBtu/h of fuel which commenced construction, modification, or reconstruction after June 9, 1984.

Recovery Furnace No.4 became subject to Subpart Db when it was modified after June 9, 1984. The project to modify Recovery Furnace No.4 was permitted by Order No. DE 99AQIS-94, which was issued on January 24, 2000. For a full list of orders and a description of the projects which were permitted, see Appendix F of the AOP.

The PM standards were incorporated into 99AQIS-94 and the subsequent AOP renewal. As discussed in Section 7 of this document, the PM standards were applied to Recovery Furnace No. 4 prior to a 2012 amendment of the applicability section in Subpart Db which clarified that recovery furnaces are not subject to the PM standards in Subpart Db. 40 CFR 60.40b(l) states that affected facilities that meet the applicability of both Subparts Db and BB are subject to the SO₂ and NO_x standards under subpart Db and the PM standards under Subpart BB. Therefore, because Recovery Furnace No.4 meets the applicability for both Subpart BB and Db, Recovery Furnace No.4 is only subject to Subpart BB PM standards. However, because the limit was incorporated into Order No.99AQIS-94, a potential increase in emissions would need to be evaluated in order to lift this limitation. Therefore, the PM limit which originated from Subpart Db is retained in the order and this permit. Because Recovery Furnace No.4 is technically not subject to the standard under 40 CFR 60.40b(1), the underlying authority is instead identified as Order No. 99AQIS-94. If WestRock violates this permit condition, it will only be a violation of the Order, and not the NSPS.

The Subpart Db NO_x limits for Recovery Furnace No.4 were addressed by incorporating an oil capacity limit of 10% into Order No. DE 99AQIS-94 and the subsequent AOP renewal. Per 40 CFR Subpart Db, the Permittee can comply with the NO_x standard by maintaining an oil capacity limit of less than 10%.

The SO₂ standards in Subpart Db are not applicable to Recovery Furnace No.4. While the recovery furnace modification was permitted in Order No. DE 99AQIS-94, the project resulted in a reduction of SO₂ emissions. NSPS is only applicable to a certain pollutant if its emission rate is increased after the modification. This is evident from 40 CFR 60.14, which contains the following language: “Upon modification, an existing facility shall become an affected facility for each pollutant to which a standard applies and for which there is an increase in the emission rate to the atmosphere”. While two subsequent permits were issued which were related to Recovery Furnace No.4 (DE 01AQIS-3114, PSD-06-02) the changes to Recovery Furnace No.4 did not meet the definition of a modification for SO₂.

Power Boiler No.7 was constructed in 1990. Power Boiler No.7 is subject to all emission standards in Subpart Db because it was constructed after June 9, 1984. Power Boiler No.7 was also modified after February 28, 2005, via PSD-02-06 and Order No.4153-AQ07 which triggered lower emission limits of SO₂ and PM to be applicable to Power Boiler No.7.

WestRock’s Power Boiler No.7 complies with the NO_x emission standard in Subpart Db by having a federally enforceable annual oil capacity limit of 10%. Previous issuances of this permit incorporated a limit of 0.30 lbs/MMBTU, 30 day rolling average, with underlying authority of 40 CFR 60.44b(d). The language under 40 CFR 60.44b(d) was originally promulgated in [1986](#). 40 CFR 60.44b(d) stated that the limit was applicable “unless the affected facility has an annual capacity factor for natural gas of 10 percent or less and is subject to a Federally enforceable requirement which limits operation of the affected facility to an annual capacity factor of 10 percent (0.10) or less for natural gas.” WestRock did not and does not currently have an annual capacity factor of 10 percent for natural gas. In [2012](#), EPA revised the language under 40 CFR 60.44b(d) to clarify that the limit also did not apply if the boiler has an annual capacity factor of 10 percent for distillate oil. WestRock has such a limit under Condition E.5b, No.4 of the proposed draft permit.

WestRock has no other emission units subject to Subpart Db.

9. APPLICABILITY OF FEDERAL AIR QUALITY REQUIREMENTS: NATIONAL EMISSION STANDARDS FOR HAZARDOUS AIR POLLUTANTS (NESHAP)

WestRock operates emission units which are subject to NESHAPs in 40 CFR Part 61 Subpart E and 40 CFR Part 63 Subparts S, MM, ZZZZ, and DDDDD (adopted by reference in WAC 173-400-075).

The NESHAPs are discussed in more detail below, with the exception of 40 CFR Part 63 Subpart ZZZZ, which is discussed in Section 11 of this document along with other rules which are also related to reciprocating internal combustion engines.

9.1 National Emission Standard for Mercury – Subpart E to 40 CFR Part 61

Subpart E to 40 CFR Part 61 limits mercury emissions from ore processing, wastewater treatment sludge incineration and drying plants, and mercury-cell chlor-alkali plants. The EPA proposed the rule in 1971 and finalized it in 1973. The EPA amended the rule in 1975 and 1987.

WestRock's Power Boiler No.7 is subject to this rule because dewatered wastewater plant sludge is combusted as a fuel in the boiler.

This standard was erroneously missing from previous versions of this permit. Subpart E to 40 CFR Part 61 requires annual stack testing, but only if emissions exceed 2.9 lb/day of mercury. Based on the results from past mercury stack testing for the Industrial Boiler MACT Standard (Subpart DDDDD to 40 CFR Part 63), WestRock is not required to test annually for mercury emissions. WestRock's Boiler MACT limit for mercury is 5.7×10^{-6} lbs/MMBtu. Stack testing for Boiler MACT compliance has shown that WestRock operates below this limit. The maximum heat input for Power Boiler No.7 is 595 MMBtu/hr. Assuming WestRock emits mercury at the same level as the Boiler MACT limit, the maximum amount of mercury emitted per day from Power Boiler No.7 is 0.08 lbs.

If WestRock would like to make a change to operations that increases mercury emissions from Power Boiler No.7, WestRock will be required to calculate the increase in emissions for Ecology approval prior to the change.

WestRock will still test for mercury emissions from Power Boiler No.7 every three years as required by the Industrial Boiler MACT Standard.

9.2 Industrial Boiler MACT Standard, Subpart DDDDD to 40 CFR Part 63

On January 31, 2013, the EPA published in the Federal Register the NESHAP for boilers and process heaters at major sources of air toxics (also referred to as Boiler MACT) – 40 CFR Part 63 Subpart DDDDD.

WestRock Tacoma Mill is a major source and emits, or has the potential to emit, 10 or more tons per year of any single hazardous air pollutant (HAP) or 25 tpy or more of any combination of HAPs. The required Initial Notification for the Boiler MACT was submitted on January 19, 2012. The applicable emission limits and work practices associated with the Boiler MACT are incorporated into this permit renewal.

WestRock Tacoma Mill has two boilers subject to the final Boiler MACT rule: Power Boilers No. 7 and No. 6. Power Boiler No. 7 (PB7) was designed and manufactured by Riley Boiler in 1991. Boiler MACT requirements for CO, PM, mercury (Hg), and hydrogen chloride (HCl) are applicable to PB7. Compliance with these requirements was required as of January 31, 2016. The mill received a compliance extension for the HCl limit until

October 1, 2016 in order to install a wet spray tower scrubber to treat emissions from PB7.

The rated heat input capacity of PB7 is 595 MMBtu/hr and it is capable of burning biomass, natural gas and recycled fuel oil. The biomass stream is a combination of purchased fuel, wastewater treatment plant residuals, on-site generated chip screening fines and on-site generated paper recycling residuals.

In the original permit application, WestRock considered PB7 to fall into the “hybrid suspension grate boiler” category of boiler MACT. The definition of a “hybrid suspension grate boiler” as defined by 40 CFR 60.7575 includes the statement “the biomass fuel combusted in these units exceeds a moisture content of 40 percent on an as-fired annual heat input basis”. Historically, fuel samples for Power Boiler No.7 had fallen well above the 40% moisture threshold. On February 20, 2017 WestRock sent Ecology an email which stated that the last 12 months of fuel monitoring data ranged from 32% to 47% moisture with the average being at 40%. To be conservative, WestRock reclassified PB7 as a “stoker/sloped grate wet biomass” subcategory [40 CFR 63.7499(i)]. The limits for Hg and HCl are the same for boilers that fall into the “hybrid suspension grate boiler” and the “stoker/sloped grate wet biomass” categories. However, the limits for CO and PM are lower for the “stoker/sloped grate wet biomass” boilers than the “hybrid suspension grate boilers”. This was not a compliance issue because WestRock was already subject to emission limits from PSD permit 06-02 which were more stringent than either Boiler MACT requirement. See Table 2 for a comparison of the emission limits.

TABLE 2. BOILER MACT LIMITS COMPARED TO PSD 06-02 LIMITS FOR PB7 FOR CO AND PM

Parameter	Hybrid Suspension Grate	Stoker/Sloped Grate Wet Biomass	Current PSD 06-02 limits in AOP
CO, ppm @ 3% O ₂ , 30-day rolling average	900 ppm	720 ppm	429 ppm (equivalent ppm @ 3% O ₂ to the 0.35 lb/MMBtu limit)
PM, lb/MMBtu	0.44	0.037	0.020

Power Boiler No. 6 (PB6) is a 1960 package boiler manufactured by Babcock and Wilcox with a rated heat input capacity of 242 MMBtu/hr. PB6 is equipped with an oxygen trim system. PB6 burns natural gas with the ability to burn recycled fuel oil. PB6 is classified as a “unit designed to burn gas 1 fuels” [40 CFR 63.7499(l)]. Per 40 CFR 63.7575, recycled fuel oil burning will be limited to only times of natural gas supply curtailments/interruptions or testing with testing limited to 48 hours per year. WestRock is required to keep records of the hours that the boiler burns fuel oil. During the most recent permit term, the mill did not burn fuel oil, despite being permitted to

do so. However, the mill remains permitted to burn oil in PB6. Should the mill make a fuel switch from gas to oil so that the boiler is no longer classified as a “unit designed to burn gas 1 fuels” they are required to make the necessary notification to Ecology and become subject to the limits for the applicable subpart.

9.3 NESHAP for the Pulp and Paper Industry (MACT I) – Subpart S to 40 CFR Part 63

On April 15, 1998, EPA issued National Emission Standards for Hazardous Air Pollutants (NESHAPs) for the pulp and paper industry, specifically 40 CFR Part 63 Subpart S. These standards have been commonly referred to as the “Cluster Rules” or “MACT I”. The compliance date for the regulations was April 16, 2001. MACT I rules regulate hazardous air pollutant emissions (as methanol) from four key areas of the Mill. All of the following systems must meet the “existing source” requirements of the MACT I rules:

- Bleaching System;
- Low-Volume, High-Concentration (LVHC) Non-Condensable Gas (NCG) system;
- Pulping Process Condensates; and
- High-Volume, Low-Concentration (HVLC) NCG system

9.3.1 Bleaching System

The bleaching system consist of alternating stages of bleaching and extraction. In the bleaching stage, the pulp is treated with chemical bleaching agents (chlorinated compounds). In the extraction stage, chemicals (usually sodium hydroxide) are added to neutralize the chemical reactions and the acidity of the pulp prior to the bleaching stage.

The bleach plant is equipped with a vent collection and treatment system. Vented gases are collected from the chlorine dioxide plant and from bleaching stages that use chlorinated compounds. The gases are transported in a closed vent system, and treated in the bleach plant scrubber. Continuous compliance of the pollution control device is demonstrated through monitoring of scrubber process parameters.

As noted in the list of applicable equipment subject to the Bleaching System section of this permit (Section L), the extraction stage washer vent and the extraction stage filtrate tank are not required to be vented into a closed system and routed to a control device. This is only required if chlorinated compounds are introduced at the stage to which the vent belongs (40 CFR 63.445(b)). As discussed above, chlorinated compounds are not introduced in the extraction stage. The inapplicability of controls to the extraction stage vents is also discussed in the Plain English Guidance for Subpart S (EPA-456/R-01-002).

9.3.2 Low-Volume, High-Concentration (LVHC) Non-Condensable Gas (NCG) system

The LVHC system is the collection of equipment including the digester, turpentine recovery, evaporator, steam stripper systems, and any other equipment serving the same function as those previously listed. The WestRock mill is equipped with a Low-Volume, High-Concentration (LVHC) Non-Condensable Gas (NCG) collection and

treatment system. WestRock's digester and evaporator systems gases are collected in a closed collection system. The collected LVHC gases are routed to the lime kilns for incineration. Continuous compliance of the LVHC NCG collection system and treatment requirements is demonstrated by recording the times that the gases are incinerated; as well as the time the gases are allowed to bypass to the atmosphere.

9.3.3 Pulping Process Condensates

Pulping process condensates are any liquids that contain hazardous air pollutants from contact of water with organic compounds in the Kraft pulping process. The WestRock mill uses hard-piping of the pulping condensates to meet the MACT I collection requirements. The collected Kraft pulping condensates are then transferred in a closed piping system to the UNOX reactor for treatment. Continuous compliance of the control of pulping condensates is demonstrated by continuous monitoring of UNOX reactor process parameters.

9.3.4 High-Volume, Low-Concentration (HVLC) NCG system

The HVLC system is the collection of equipment including the pulp washing, knotter, screen, decker, oxygen delignification systems, weak liquor storage tanks, and any other equipment serving the same function as those previously listed. WestRock has a High-Volume, Low-Concentration (HVLC) condensable NCG gas collection system for the screening and washing of unbleached Kraft pulp processes.

Vent gases are collected in a closed HVLC vent collection system and routed to the recovery furnace for incineration. Continuous compliance of the HVLC collection and treatment system is demonstrated through monitoring the operational status of the transport system, the times that the gases are incinerated, and the times that the gases are allowed to bypass to the atmosphere.

9.4 NESHAP for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semichemical Pulp Mills (MACT II) – Subpart MM to 40 CFR Part 63

On January 12, 2001, EPA issued NESHAPs for the pulp and paper industry, specifically 40 CFR Part 63 Subpart MM – National Emission Standards for Hazardous Air Pollutants for Chemical Recovery Combustion Sources at Kraft, Soda, Sulfite, and Stand-Alone Semi-chemical Pulp Mills. After a 60-day delay in the effective date, the rules became effective on March 13, 2001, with a compliance date of March 13, 2004.

These standards have been commonly referred to as "MACT II". MACT II rules regulate emissions of metals, using particulate matter as a surrogate, from five significant emission units and their respective control devices at the mill. All of the units must meet the "existing source" MACT II requirements:

- Lime Kiln No. 1 and No. 2
- Recovery Furnace No. 4

- Smelt Dissolving Tanks 4E and 4W

9.4.1 Lime Kiln No. 1 and No. 2

The mill operates two lime kilns. For each kiln, the flue gases are transported with an induced draft fan and associated ducting to a wet scrubber. The cleaned gas is discharged to the atmosphere through a stack. Continuous compliance with the particulate matter discharge requirements is demonstrated through continuous monitoring of operating parameters for each scrubber (pressure drop and scrubbing liquid flow rate). See section 13 of this document for more information as to how limits for the operating parameters were established.

9.4.2 Recovery Furnace No.4

The mill operates one recovery furnace. The recovery furnace flue gas is transported with an induced draft fan and associated ducting to the electrostatic precipitator. The cleaned flue gas is discharged through the recovery furnace main stack. Continuous compliance with the particulate matter discharge requirements is demonstrated through the use of a COMS.

9.4.3 Smelt Dissolving Tanks

The recovery furnace has two associated dissolving tanks, the east and the west tank. Each dissolving tank vent has a scrubber and discharges through a stack. A fan conveys emissions from the smelt dissolving tanks to the scrubbers. Continuous compliance with the particulate matter discharge requirements is demonstrated through continuous monitoring of operating parameters for each scrubber (fan amperage and scrubbing liquid flow rate). See section 13 of this document for more information as to how limits for the operating parameters were established.

10. APPLICABILITY OF FEDERAL AIR QUALITY REQUIREMENTS: SUBPART ZZZZ TO 40 CFR PART 63, SUBPARTS IIII AND JJJJ TO 40 CFR PART 60 - RECIPROCATING INTERNAL COMBUSTION ENGINES (RICE)

WestRock uses stationary combustion engines to provide electricity and to power pumps and compressors during periods of emergency. The EPA has promulgated regulations for stationary reciprocating internal combustion engines under three main subparts: 40 CFR 63 Subpart ZZZZ (NESHAP for Stationary Reciprocating Internal Combustion Engines), 40 CFR 60 Subpart JJJJ (New Source Performance Standards for Stationary Spark Ignition Internal Combustion Engines) and 40 CFR 60 Subpart IIII (New Source Performance Standards for Stationary Compression Ignition Internal Combustion Engines). Table 3 lists WestRock's RICE engines and which subpart they are subject to. The applicable work practice standards are included as Section P in the permit.

All emergency engines are subject to ZZZZ if construction commenced before June 12, 2006. The first eleven engines in Table 3 fall into this category. If construction commenced after June 12, 2006 they are not subject to ZZZZ and instead are subject to either JJJJ or IIII. The last three engines in Table 3 fall into this category. These three engines are subject to JJJJ, because they are spark ignition engines. Subpart IIII is not applicable because this subpart is for compression ignition engines. Further discussion about the engines subject to JJJJ is presented after Table 3.

TABLE 3. RICE ENGINES AND APPLICABILITY TO ZZZZ, JJJJ, OR IIII

Model	Description	Fuel	Category	HP	Date Installed	Subject to ZZZZ?	Subject to JJJJ?	Subject to IIII?
Kohler 100RZG	Standby for cogeneration, emergency lights in chip silo and shops (generator set)	Propane	Existing Emergency SI less than 500 hp	13.4	1973	Yes	No	No
Caterpillar 3208	Fire pump 1648	Diesel	Existing Emergency CI less than 500 hp	235	1987	Yes	No	No
Caterpillar 3412	Emergency Power to wastewater treatment plant dewatering	Diesel	Existing Emergency CI greater than 500 hp	749	1991	Yes	No	No
Onan Model 100DGB	Emergency power to recovery dump valves	Diesel	Existing Emergency CI less than 500 hp	134	1993	Yes	No	No
Onan 15JC-L	Emergency Power to front gate (generator set)	Propane	Existing Emergency SI less than 500 hp	20.1	1993	Yes	No	No
Caterpillar SR4	Emergency power to secondary WWTP pump	Diesel	Existing Emergency CI greater than 500 hp	2012	1995	Yes	No	No
Kohler 10RY-E	Generator for Emergency Telephone (Engine Serial No. 0762693)	Propane	Existing Emergency SI less than 500 hp	13.4	2003	Yes	No	No
Wisconsin TJD367455	Emergency Power to LK No.2 Drive	Gasoline	Existing Emergency SI less than 500 hp	less than 20	2004	Yes	No	No
Kohler 10RZ82	Emergency power to substation lighting (generator set)	Propane	Existing Emergency SI less than 500 hp	17.5	Prior to 2006	Yes	No	No
Kohler 20RZ02	Auxillary generator for paper mill lighting (generator set)	Propane	Existing Emergency SI less than 500 hp	50	Prior to 2006	Yes	No	No
Kohler 15RES LP	Generator for backup power at Recovery Furnace 4 for ESP/Dump valve/Rapid Drain	Propane	New Emergency SI	25	4/10/2008	No	Yes	No
Kohler 1000RZG	Standby generator for cogeneration, power for Oil pumps/Turbine/Turning gear/DC lube oil/Jacking oil/Generator protection relay	Propane	New Emergency SI	162	6/19/2008	No	Yes	No
Kohler 15REYG	Provides emergency lighting at Power Boiler No.7, located in Power Boiler No.6 Boiler Room (generator set)	Propane	New Emergency SI	25	2012	No	Yes	No
Deutz D2011L03i	Emergency Power to LK No.1 Drive	Diesel	New Emergency CI	49	2020	No	No	Yes

Kohler 15RES LP – Recovery Furnace No. 4 Backup (Installed April 2008)

Applicability for this subpart is listed under 40 CFR Part 60.4230. This engine is applicable to Subpart JJJJ under 40 CFR 60.4230(a)(6), as it commenced construction after June 12, 2006. 40 CFR 60.4230(a)(6) says that the provisions of 40 CFR Part 60.4236 are applicable to all owners and operators of stationary SI ICE after June 12, 2006. Only the provisions of 40 CFR Part 60.4236 are applicable to this engine.

This engine does not fall under 40 CFR Part 60.4230(4)(iv) because the HP of this engine is not greater than 25 HP. WestRock provided the manufacture's spec sheet to Ecology for this engine via email on October 21, 2019. The maximum engine power at rated RPM is listed as 19.0 kWm. Note that 19.0 kWm is equivalent to 25 HP. The 19.0 kW converts to 25.4794 HP before rounding. 40 CFR Part 60 Subpart JJJJ does not use decimal points to classify engines based on BHP. Therefore, the HP of this engine rounds down to 25 HP without using decimal places. Further, Subpart JJJJ also suggests that 19 kW is equivalent to 25 HP as "19 kW" is followed by "25 HP" in parenthesis. Ecology considers the maximum horsepower of this engine to be equal to 25 HP.

Additionally, this engine does not fall under 40 CFR Part 60.4230(4)(iii) because it was not manufactured on or after July 1, 2008.

Although 40 CFR Part 60.4230(a)(6) says that this engine is subject to the provisions of 40 CFR Part 60.4236, there are no provisions applicable to this engine under 40 CFR Part 60.4236. This engine was installed in 2008, before trigger date listed in 40 CFR Part 60.4236 (July 1, 2010 for stationary SI ICE with a maximum engine power of less than 500 HP).

This regulatory "loop hole" is discussed in the "Implementation Question and Answer Document" for this rule ([Implementation Question and Answer Document](#)) under question 40. Question 40 also states that the EPA may address the requirements for these engines through a future rule making. This engine is listed in WestRock's renewed permit as applicable to JJJJ, although no specific permit conditions are listed. Listing the engine as applicable to JJJJ in the renewed permit will require WestRock to comply with any changes the EPA makes to subpart JJJJ that effects this engine and is promulgated after this permit is issued.

Kohler 1000RZG – Cogen standby (Installed June 2008)

Applicability for this subpart is listed under 40 CFR Part 60.4230. This engine is applicable to Subpart JJJJ under 40 CFR 60.4230(a)(6), as it commenced construction after June 12, 2006. 40 CFR 60.4230(a)(6) says that the provisions of 40 CFR Part 60.4236 are applicable to all owners and operators of stationary SI ICE after June 12, 2006. Only the provisions of 40 CFR Part 60.4236 are applicable to this engine.

This engine does not fall under 40 CFR Part 60.4230(4)(iv). Although this engine's HP is greater than 25 HP, it was not manufactured on or after July 1, 2008.

Although 40 CFR Part 60.4230(a)(6) says that this engine is subject to the provisions of 40 CFR Part 60.4236, there are no provisions applicable to this engine under 40 CFR Part 60.4236. This engine was installed in 2008, before trigger date listed in 40 CFR Part 60.4236 (January 1, 2011 for emergency stationary SI ICE with maximum engine power of greater than 19 KW (25 HP)).

This engine falls into the same regulatory "loop hole" discussed for the engine above. This engine is listed in WestRock's renewed permit as applicable to JJJJ, although no specific permit conditions are listed. Listing the engine as applicable to JJJJ in the renewed permit will require WestRock to comply with any changes the EPA makes to subpart JJJJ that effects this engine and is promulgated after this permit is issued.

Kohler 15REYG – PB7 Emergency Lighting (Installed 2012)

Applicability for this subpart is listed under 40 CFR Part 60.4230. This engine is applicable to Subpart JJJJ under 40 CFR 60.4230(a)(6), as it commenced construction after June 12, 2006. This engine also falls under 40 CFR Part 60.4230(3)(iii) since the date of manufacture is after July 1, 2008 and the maximum engine power is less than 500 HP.

This engine was manufactured in August 2010 and has a displacement of greater than 225 cc.

- **Deutz D2011L03i – Emergency Power to LK No.1 Drive (Installed 2020)**

This compression ignition engine was built in 2012 and has a total engine displacement of 2.33 liters. The engine was rebuilt and installed in 2020. It is subject to Subpart IIII under 40 CFR 60.4200(a)(2) which states that owners and operators of stationary CI ICE that are manufactured after April 1, 2006 are subject to Subpart IIII. WestRock must comply with Subpart IIII by purchasing an engine that is certified to meet the emission standards in 40 CFR 1039.104, 40 CFR 1039.105, 40 CFR 1039.107, 40 CFR 1039.115, and Table 2 to 40 CFR 60, Subpart IIII.

11. SOURCE TESTING AND SURROGATE PARAMETER DISCUSSION

11.1 Monitoring and Gap Filling

Ecology has preferentially relied on direct source testing as the most robust and accurate method of determining compliance and, through frequency of testing, assuring compliance. Source testing is resource and time intensive. More frequent monitoring requires the use of some sort of indirect surrogate parameter. Ecology has attempted to reconcile frequency of periodic monitoring with more frequent indirect monitoring using surrogate parameters.

Where surrogate monitoring parameters have been employed, the Permit has been structured such that noncompliance with the surrogate limitation requires corrective action. The Permit also defines when noncompliance with a surrogate limitation is considered a violation.

Failure to take corrective action and bring the surrogate parameter within bounds constitutes noncompliance with the need to follow good operation and maintenance as required by WAC 173-405-040(8). The Permit thus combines periodic direct source testing, which definitively determines compliance, with surrogate monitoring requirements, indicating compliance, to achieve an overall monitoring program intended to meet the Title V and 40 CFR Part 64 CAM requirements of sufficient monitoring to assure compliance.

The frequency of both direct source testing and the application of surrogate parameters intended to indirectly infer compliance with the underlying applicable requirement is based on best professional judgment of the historical probability of exceeding the imposed limitation and the potential magnitude of an exceedance. Historical testing results for all parameters monitored are not included, but this data is available for public review.

Emission units such as the lime kilns and smelt tanks have wet scrubbers as emission control equipment or as part of the emission control equipment train. The requirement to monitor and maintain scrubber flow at certain set points was, prior to the advent of Title V permits, initially imposed as an indicator of proper operation and maintenance of the control equipment to ensure opacity and particulate emission minimization. Particulate source testing and visual observations of opacity indicate that the surrogate scrubbing parameters stipulated can be used as indicators of compliance with the opacity and particulate emission limits. These surrogate parameters are maintained within the ranges established during the initial performance testing. See Section 13 for documentation of how surrogate parameters were established.

For some units, such as recovery furnaces, opacity is proposed as a compliance indicator for particulate emissions. At this time, Ecology does not know of a definitive relationship between opacity and particulate emissions for all emission units such that opacity could be used as a predictive emissions parameter. Nonetheless, there is a relationship such that the opacity levels selected, the opacity limits themselves, are believed to adequately function as surrogate indicators which infer compliance with the underlying applicable requirement.

An allowance is incorporated into the Permit for a reduction in source testing related to certain particulate emission limits for Power Boiler No.7, Lime Kilns No.1 and No. 2, Recovery Furnace No. 4, and Smelt Dissolver Tanks. The reduction in source testing frequency which may be allowed if particulate emissions fall below a certain percentage of the emission limit. Ecology has introduced this allowance as an incentive to

encourage improved emission control. This allowance is located in Appendix G, No.1 in the proposed draft AOP.

11.2 Monitoring at Power Boiler No.6

Power Boiler No.6 is unique compared to other emission units. It is not equipped with specialized emission control equipment such as an electrostatic precipitator or a scrubber like other emission units. Power Boiler No.6 is subject to PM, Opacity, and SO₂ limits. Power Boiler No.6 is permitted to burn oil and natural gas. Based on the chemical and physical properties of natural gas, Power Boiler No.6 is unlikely to exceed any emission limits when only burning natural gas. Therefore, the monitoring provisions related to PM and SO₂ limits are either related to the qualities of oil burned or are only required when oil is burned.

Condition D.1 requires WestRock to show compliance with the PM limitation by performing stack tests if Power Boiler No.6 burns natural oil for a 216 hours in a month or every 720 hours in which it burns oil. Stack test frequencies were originally prescribed in Administrative Order Nos. 1916-AQ05 and 5157-AQ07. These orders had conflicting language. Order No. 1916-AQ05 required source testing once every 90 days on oil if oil is fired for more than four successive days. Order No. 5157-AQ07 required source testing once every month oil is fired for more than three successive days. The previous permit required a stack test to be performed at minimum once every three years while firing natural gas. This language left potential "gaps" in monitoring as WestRock could potentially burn oil for three successive days every month and never be subject to stack testing. The new proposed monitoring requirements do not require a successive time period, only a total time period in a month which will trigger a source test. Additionally, since a source test is required every 720 hours (equivalent to one month) even if the hours did not occur in one month, there is no longer a gap in the monitoring requirements in which WestRock could continue to burn a small amount of oil each month and not be subject to monitoring requirements. The sample frequency of every three years while burning natural gas has been lifted. It is extremely unlikely that PM emissions could be exceeded while burning natural gas.

Additionally, WestRock is required to keep records of ash content either in their oil tank which feeds Power Boiler No.6 or records of ash content in shipments of fuel received. The fuel ash limit of 0.80% to show compliance with the PM limit was originally established in Administrative Order No. 5157-AQ07 issued on October 10, 2007. The order states that in March 2006, source tests at Power Boiler No.6 showed elevated particulate emissions which resulted in several particulate emission violations. After an investigation, Simpson (the Permittee at the time) identified ash content of the oil as the underlying cause. Therefore, to ensure compliance, Ecology implemented a fuel ash limit through Administrative Order No.5157-AQ07.

As stated above, these monitoring requirements originated in Administrative Orders Nos. 1916-AQ05 and 5157-AQ07. Ecology has rescinded these orders concurrently with the

reissuance of this AOP and therefore sufficiency monitoring is instead cited as the underlying authority for these requirements. Managing monitoring requirements in the AOP rather than orders will allow for Ecology to modify the monitoring requirements more easily in a permit modification or renewal, rather than modifying both an administrative order and the AOP concurrently. See Section 8 of this document for information on orders which were modified concurrently with this permit. 40 CFR 70.6(c) requires testing, monitoring, reporting, and recordkeeping requirements to assure compliance with the terms and conditions of the AOP. Ecology has cited 40 CFR 70.6(c) as the underlying authority for these monitoring requirements in Condition D.1.

Condition D.2 requires WestRock to perform visual opacity assessments (using Ecology Method 9B) periodically when combusting oil. Power Boiler No.6 does not have a continuous opacity monitoring system or equipment such as a scrubber or electrostatic precipitator which could be used to establish other surrogate monitoring parameters to show compliance with opacity. This is not a requirement when burning only natural gas, as opacity limits are unlikely to be exceeded while only burning natural gas. Ecology has cited 40 CFR 70.6(c) as the underlying authority for this monitoring requirement.

Condition D.3 requires WestRock to show compliance with the SO₂ limit by only combusting fuel oil that contains less than or equal to 2% sulfur. The sulfur limit cannot be exceeded if only fuels which meet this requirement are combusted. See Section 22.2 of this document for supporting calculations. Ecology has cited 40 CFR 70.6(c) as the underlying authority for this monitoring requirement.

It is noted that in recent years, Power Boiler No.6 has exclusively burned natural gas. Additionally, as Power Boiler No.6 is subject to BoilerMACT requirements which only allows the combustion of fuels other than natural gas for up to 48 hours in any calendar year. Exceeding the 48 hour limitation may result in a change in Power Boiler No.6's BoilerMACT category and thus result in more limitations.

11.3 Representative Source Tests

WestRock Tacoma Mill's is required to perform source tests during representative operating conditions per Facility-Wide General Requirement No. 26.

12. DISCUSSION OF SPECIFIC PERMIT CONDITIONS AND SURROGATE PARAMETERS

12.1 HAP Emissions from Chemical Recovery Process Units (Recovery Furnace, Lime Kilns, and Smelt Dissolver Tank)

The operating limit surrogate parameters derived from performance testing discussed in this section have been incorporated into Permit Conditions A.8b (Recovery Furnace No. 4), B.3b (Smelt Dissolving Tanks), and C.4b (Lime Kilns Nos. 1 and 2).

EPA promulgated national emission standards for hazardous air pollutants (NESHAPs) for new and existing combustion sources used in the chemical recovery processes at kraft, soda, sulfite, and stand-alone semi-chemical pulp mills in 40 CFR Part 63 Subpart MM. Hazardous air pollutants (HAPs) that are regulated by this final rule include gaseous organic HAPs and HAP metals.

This rule promulgates PM emission limits as a surrogate for HAP metals emission limits for these sources. The organic HAP emission limits are only applicable to new sources.

The PM emission limits specified by this rule as a surrogate for HAP metals emission limits are as follows:

TABLE 4. 40 CFR PART 63 SUBPART MM LIMITS FOR CHEMICAL RECOVERY PROCESS UNITS

Permit Condition	Emission Unit	Limit
A.8a	Recovery Furnace No.4	0.044 gr/dscf @ 8% O ₂
B.3a	Smelt dissolving Tank Nos. 4E and 4W	0.20 lb /ton of black liquor solids fired
C.4a	Lime Kilns Nos. 1 and 2	0.064 gr/dscf @ 10% O ₂

40 CFR Part 63 Subpart MM requires the facilities to either follow or establish ongoing compliance methods for each of the applicable emission units. Recovery Furnace No. 4 is a dry stack and is able to follow the opacity requirements established in the subpart. The smelt dissolving tanks and lime kilns are wet stacks and must establish surrogate operational parameters to indicate on-going compliance.

Surrogate parameters required by 40 CFR Part 63 Subpart MM as originally promulgated in 2001 for smelt dissolving tanks with wet scrubbers include pressure drop across the scrubber and the scrubbing liquid flow rate. EPA, by letter dated Dec. 16, 2004, approved WestRock Tacoma Mill's request to monitor scrubber fan amperage rather than scrubber differential pressure. The request was made because WestRock Tacoma Mill uses a low-energy scrubber (Ducon UW-4 scrubber) rather than a venturi scrubber. Fan amperage better correlates with scrubber performance in such cases. In 2010, WestRock established surrogate monitoring parameters for fan amps and scrubber flow rate at the smelt dissolving tanks. In 2017 EPA revised 40 CFR Part 63 Subpart MM to include fan amperage monitoring rather than pressure drop as a standard compliance option.

On November 19, 2020, the EPA established additional methods of compliance for establishing surrogate monitoring limits for the smelt dissolving tank fan amps under 40 CFR Part 63.864(j)(5)(B)(1)-(3). These methods of compliance are only applicable to low-energy entrainment scrubbers where fan speed does not vary. WestRock's scrubbers fall under this category and therefore they can establish fan amp limits using the methods

under 40 CFR Part 63.8364(j)(B)(5)(1)-(3). In 2021, WestRock established surrogate monitoring parameters under 40 CFR Part 63.864(j)(5)(B)(1), which states the following: “The minimum fan amperage operating limit must be set as the midpoint between the lowest of the 1-hour average fan amperage values associated with each test run demonstrating compliance with the applicable emission limit in [§ 63.862](#) and the no-load amperage value. The no-load amperage value must be determined using manufacturers specifications, or by performing a no-load test of the fan motor for each smelt dissolving tank scrubber.”

On June 10, 2021 WestRock Tacoma Mill conducted a performance test to update the SDTs operating parameter limits. The data collected is presented below.

TABLE 5. EAST SMELT DISSOLVING TANK SUBPART MM REPEAT PERFORMANCE TEST JUNE 10, 2021

Run #	Average Emissions, lb/ton BLS	¹ Black Liquor Solids Firing Rate klb/hr	¹ Average Steam flow, kpph	East Scrubber Flow, gpm	East Fan Amps	West Scrubber Flow, gpm	West Fan Amps
1	0.0589	150	524	35	86	35	82
2	0.0617	150	499	35	88	35	81
3	0.0794	150	498	35	87	35	82
Average	0.0597	150	507	35	87	35	82
Limit	0.2	N/A	N/A	35 ² (minimum)	60 ³ (minimum)	35 ² (minimum)	58 ³ (minimum)

¹At Recovery Furnace No.4 during the Stack Test

²Minimum scrubber liquid flow rate is the lowest of the 1-hour average scrubbing liquid flow rate values associated with each test run demonstrating compliance with the applicable emission limit per 40 CFR 63.864(j)(5)(i)(A).

³Per 40 CFR 63.864(j)(5)(i)(B)(1), the minimum fan amperage operating limit must be set as the midpoint between the lowest of the 1-hour average fan amperage values associated with each test run demonstrating compliance with the applicable emission limit and the no-load amperage value. The no-load amperage value must be determined using manufacturers specifications, or by performing a no-load test of the fan motor for each smelt dissolving tank scrubber.

The no-load amperage value for WestRock’s each scrubber fan is 34 amps. This value was established by testing the motor load while there was no drive belt for the fan connected

to the motor. Example calculations for the minimum smelt dissolver tank fan amperage are presented below.

Calculations for East Stack Amperage

$$(86-34)/2 + 34 = 60 \text{ Amps}$$

Calculations for West Stack Amperage

$$(81-34)/2 + 34 = 58 \text{ Amps}$$

WestRock submitted the following performance test results as required by 40 CFR 63.864 on October 21, 2020 for Lime Kilns Nos. 1 and 2. The surrogate set points are designed as ongoing compliance indicators. 40 CFR 63.862 establishes a HAP limit of 0.064 gr/dscf @10% O₂. Each test consisted of three runs with minimum duration of 60 minutes and a minimum sample volume of 31.8 dscf per run.

TABLE 6. LIME KILN NO. 1 SUBPART MM PERFORMANCE TEST SEPTEMBER 25, 2020

Run #	Average Emissions (gr/dscf @ 10% O ₂)	Average Scrubber dP (" H ₂ O)	Average Scrubber Recirc. Rate (gpm)
1	0.0189	19	273
2	0.0349	19	273
3	0.0363	20	273
Average	0.030	19	273
Limit	0.064	19¹ (minimum)	273² (minimum)

¹Minimum scrubber pressure drop operating limit is the lowest 1-hour average pressure drop value associated with each test run demonstrating compliance with the applicable emission limit per 40 CFR 63.862(j)(5)(i)(B).

²Minimum scrubber flow rate operating limit is the lowest 1-hour average scrubbing liquid flow rate value associated with each test run demonstrating compliance with the applicable emission limit per 40 CFR 63.862(j)(B).

TABLE 7. LIME KILN NO. 2 SUBPART MM PERFORMANCE TEST SEPTEMBER 28, 2020

Run #	Test Result	Average Scrubber dP (" H ₂ O)	Average Scrubber Recirc. Rate (gpm)
1	0.0403	28	248
2	0.0582	27	247
3	0.0602	28	246
Average	0.053	28	247
Limit	0.064	27¹ (minimum)	246² (minimum)

1. Minimum scrubber pressure drop operating limit is the lowest 1-hour average pressure drop value associated with each test run demonstrating compliance with the applicable emission limit per 40 CFR 63.862(j)(5)(i)(B).

2. Minimum scrubber flow rate operating limit is the lowest 1-hour average scrubbing liquid flow rate value associated with each test run demonstrating compliance with the applicable emission limit per 40 CFR 63.862(j)(B).

12.2 Power Boiler No. 7 Boiler MACT Performance Tests

The operating limits derived from performance testing discussed in this section have been incorporated into permit conditions E.2f (HAPs), E.2g (HAPs) E.8b (HCl), E.8c (HCl), E.9b (Hg), and E.9c (Hg).

40 CFR 63.7515(a) requires annual performance testing for Boiler MACT parameters, unless 40 CFR 63.7515(b) becomes applicable which can allow repeat testing every 3 years. WestRock currently conducts performance testing every three years. The results below reflect the most current operating limits as of the date of public notice of the draft proposed AOP.

The following performance tests have been performed and the operating limits defined per Table 4 to Subpart DDDDD of 40 CFR Part 63 are specified below. The performance test performed on June 23, 2020 used fuels which challenged Hg and PM emission controls. The performance test on June 24, 2020 used fuels which challenged HCl emissions. Each performance test consisted of three one-hour runs.

TABLE 8. PB7 PM AND HG PERFORMANCE TESTING AND SURROGATE MONITORING PARAMETERS - JUNE 23, 2020

Run	Test Result as lb PM/MMBtu	Test Result as lb PM/MMBtu Hg	North Total Secondary Power, kilowatts	South Total Secondary Power, kilowatts	Operating Load, Steaming Rate, kpph
1	0.0016	2.15 E -06	26.8	30.6	315
2	0.0017	2.38 E -06	30.5	31.0	295
3	0.0024	2.34 E -06	29.7	29.7	301
Average	0.0019	2.29 E -06	29	30	304
Limit	0.037	5.7E-06	29¹ (minimum)	30¹ (minimum)	347² (maximum)

1. Limit is average total power of test runs per Table 7 to Subpart DDDDD, number 1b.

2. Limit is 110% of max operating load (110% of 315 kpph) measured during test run per Table 7 to Subpart DDDDD, number 5.

TABLE 9. PB7 HCL PERFORMANCE TESTING AND SURROGATE MONITORING PARAMETERS - JUNE 24, 2020

Run	Test Result as lb HCl/MMBtu	Scrubber pH	Scrubber Flow, gpm	Operating Load, Steaming Rate, kpph
1	0.0080	3.1	1207	316
2	0.0077	3.5	1194	316

Run	Test Result as lb HCl/MMBtu	Scrubber pH	Scrubber Flow, gpm	Operating Load, Steaming Rate, kpph
3	0.0074	3.3	1174	318
Average	0.0077	3.3	1192	317
Limit	0.022	3.1¹ (minimum)	1174¹ (minimum)	350² (maximum)

1. Limit is lowest hourly average during the performance test per Table 4 to Subpart DDDDD, number 2.
2. Limit is 110% of max operating load (110% of 318 kpph) measured during test run per Table 7 to Subpart DDDDD, number 5. Note steaming rate is a surrogate monitoring parameter for PM, Hg, and HCl. The lower maximum steaming rate of 347 kW from the performance test on June 23rd has been incorporated into the permit.

12.3 Causticizer Slaker Vent (Permit Condition F.1)

Specific monitoring requirements for this unit have been left unspecified given the units historical ability to comply with the emission limit without the assistance of emission control equipment. Baseline testing of particulate emissions without the scrubber operating shows particulate emissions averaging 0.013 gr/dscf, which is an order of magnitude below the 0.10 particulate limit set forth in WAC 173-400-060. Ecology considers good operation and maintenance to consist of operation of the scrubber. The historical emissions testing results from the initial AOP timeframe in gr/dscf are as follows:

TABLE 10. CAUSTICIZER SLAKER VENT PM DATA

Run	Test Result, Scrubber On gr/dscf	Run No.	Test Result, Scrubber Off gr/dscf
Run1	0.01	Run 4	0.0201
Run 2	0.0318	Run 5	0.0075
Run 3	0.0103	Run 6	0.0109

12.4 Pulping Process Condensates

The operating limit derived from performance testing discussed in this section has been incorporated into Permit Condition K.7.

WestRock Tacoma Mill has chosen the allowed treatment option of reducing or destroying total HAPs by at least 92 % or more by weight, per 40 CFR 63.446(e)(3).

The IPT results submitted October 2, 2001 showed this standard was met by collecting the required amount of condensate streams and introducing them into the UNOX

treatment system. WestRock Tacoma Mill requested to monitor UNOX aerator amperage as a surrogate performance parameter. This request was approved by EPA in the fall of 2004.

WestRock's November 15, 2010 performance test established 15-day rolling average amperage limits. WestRock is required to have a 15-day rolling aerator amperage greater than 23.5 amps per reactor pass when operating two cells in parallel, or a 15-day rolling aerator amperage greater than 44.5 amps when operating one cell.

The CFR has additional compliance options under 40 CFR 63.446(e)(4) and (5) (for unbleached and bleached production respectively) which are included in the draft permit. The additional option is a required mass of methanol to be destroyed per ton of ODP. However, at the time of writing this draft permit, it is not always feasible for WestRock to comply using this method.

The mass of methanol destruction per ton ODP option would require WestRock to meet a prorated treatment standard of 10.2 lbs methanol per ton of ODP for bleached products and 6.6 lbs methanol per ton ODP for unbleached products. Historically, the concentration of the mill's condensate stream is not high enough to allow for WestRock to achieve this level of treatment. For example, during an October 17, 2019 performance test, methanol from foul condensate was sent to the UNOX system at a rate of 5.7 lbs/ODT. Based on the amounts of bleached and unbleached production at the time, WestRock would be required to destroy a total of 8.5 lbs/ODT. Clearly, WestRock would not be able to meet this destruction criteria. However, during this performance test, WestRock was able to achieve a percent methanol reduction of 95.2%, satisfying the requirement of 40 CFR 63.446(e)(3).

40 CFR 63.446(e)(4) and (5) each contain yet another option for compliance. This option is a maximum ppm of methanol allowed in the outlet of the control device. This option is excluded from the draft permit. This compliance option is not an acceptable way for WestRock to show compliance. For mills that perform bleaching, the requirement is that a concentration of 330 ppm methanol or less by weight is achieved on the outlet of the control device. WestRock's UNOX system utilizes a large amount of contact cooling water. Because of this dilution, WestRock is able to achieve the 330 ppm effluent condition with little or no treatment. This does not meet the intent of the regulation. This is further supported by the language in 40 CFR 63.446(e)(2), which specifically states that for biological treatment systems, total HAPs must be measured as specified in 40 CFR 63.457(g)(2). 40 CFR 63.457(g)(2) goes on to specify that biological treatment systems complying with 40 CFR 63.446(e)(2) must follow the procedures in 40 CFR 63.457(l)(1) and (2), which are specifically for the percent reduction and mass removal options. The method of complying by achieving a certain concentration at the outlet of the control device is not mentioned. Additionally, Figure 13 of the Plain English Guidance for Subpart S specifically states that the outlet concentration option is not available for biological treatment systems ([EPA-456/R-01-002](#)).

Bleach Plant Scrubber Vent

Monitoring required for the bleach plant scrubber can be found in 40 CFR 63.453(c). The requirements in 40 CFR 63.453(c) requires the pH or oxidation/reduction potential (ORP) of the scrubber effluent be monitored, the gas scrubber vent gas inlet flow rate be monitored, and the gas scrubber liquid influent flow rate.

WestRock is performing alternative monitoring. Rather than measure scrubber gas inlet flow rate, WestRock monitors the fan's on/off status. This was widely allowed by the EPA in a 1999 question and answer document for Subpart S, available at the following link: [Questions and Answers for the Pulp and Paper NESHAP](#). The questions and answer document states: "... our intent of the monitoring requirement is to ensure that the liquid-to-gas ratio of the gas scrubber is maintained at or above the levels established during the performance test. Increasing the liquid-to-gas ratio, by either increasing the influent flow rate or reducing the vent gas flow rate, improves the HAP removal efficiency of the gas scrubber. Gas flow rate is a direct function of the speed of the fan used to convey vent gas streams to the gas scrubber. The fans used to convey vent gases to gas scrubbers are typically operated at constant speeds, therefore, the operation of these fans would be a reliable monitoring parameter. However, if the fan speed drops below the level measured during the performance, gas scrubber performance should improve because the liquid-to-gas ratio of the gas scrubber increases when the gas flow drops." This method of monitoring was also approved by the EPA via a letter to WestRock dated December 16, 2004.

The operating limit derived from performance testing discussed in this section has been incorporated into Permit Condition for L.4 for the bleaching system.

WestRock performed an IPT using white liquor as the scrubbing fluid. The HAPs that were tested are Cl_2 and ClO_2 . Surrogate monitoring limits were established for scrubber flow rate and oxidation reduction potential (ORP). The white liquor IPT results were reported on October 7, 2003. Weak wash was also evaluated as a potential scrubbing fluid. However, it was proven to be ineffective in meeting emission limits.

The most recent PT at the bleach plant scrubber was performed on May 19, 2020. The results are shown below in Table 11. WestRock may establish new operating limits in subsequent performance tests that show compliance with emission standards.

TABLE 11. BLEACH PLANT SCRUBBER PERFORMANCE TEST WITH WHITE LIQUOR

Scrubbing Liquid	Fan Operation	ORP	Scrubber Flow	Cl_2	ClO_2
White Liquor	On	-361 mV	70 gpm	0.0004	< 0.0002
Limit	On	less than or equal to -361	Greater than or	0.002 lb/ODTP	0.002 lb/ODTP

Scrubbing Liquid	Fan Operation	ORP	Scrubber Flow	Cl ₂	ClO ₂
		mV, 3-hour avg	equal to 70 gpm, 3-hour average	(total chlorinated HAP)	(total chlorinated HAP)

12.5 Paper Machine 13 (Permit Condition O.1)

Ecology issued NOC Order No. 10948 on November 14, 2014. The order approved a project to replace four existing refiners serving the Tacoma Mill's No. 13 paper machine (PM13) with two new high-efficiency refiners. The main purpose of the project is energy conservation which lowers the cost of production. The project was required to use the best available control technology for toxics (tBACT). Due to the fact that the volumes of air that is exhausted from the paper machine are large and the concentration of the VOCs is small, it is technically infeasible to accurately measure the VOC emissions and impractical to treat them at such small concentrations. The mill proposed that tBACT be established as a work practice standard based on operating in a manner consistent with good air pollution control practices (minimizing usage rates and VOC contents of additive chemicals, where feasible). Ecology approved the project and required the use of additives that are "low VOC". Low-VOC is a general term that defines a broad spectrum of VOC contents that are significantly less than those of conventional products.

13. APPLICABILITY OF FEDERAL AIR QUALITY REQUIREMENTS: COMPLIANCE ASSURANCE MONITORING

The surrogate monitoring described in Section 12 and 13 above all relate to permit conditions in which surrogate monitoring is specifically called for in the regulation. Some older regulations do not require surrogate monitoring to assure compliance in between stack testing. The EPA has implemented Compliance Assurance Monitoring (CAM), which provides framework for incorporating surrogate monitoring for limits that do not already have a specified compliance assurance method.

Under 40 CFR Part 64, WestRock is required to submit a Compliance Assurance Monitoring (CAM) Plan to the Washington Department of Ecology as part of Tacoma Mill's Title V operating permit renewal application. A CAM Plan is required for each federally enforceable applicable standard for each emission unit that meets the following criteria.

1. The unit uses a control device to achieve compliance. [40 CFR 64.2(a)(2)]
2. The potential pre-control emissions of the applicable pollutant from the unit are at least 100% of the major source amount (normally 100 tons per year). [40 CFR 64.2(a)(3)]

3. The unit is not otherwise exempt, such as new source performance standards (NSPS) or national emission standards for hazardous air pollutants (NESHAP) proposed after November 15, 1990, or stratospheric ozone requirements. [40 CFR 64.2(a)(4)]

40 CFR 64.1 says, "Control device means equipment, other than inherent process equipment, that is used to destroy or remove air pollutant(s) prior to discharge to the atmosphere." It goes on to identify commonly used specific equipment such as an electrostatic precipitator (ESP) or scrubber. However, use of low-polluting fuel or feedstock, or the use of combustion or other process design features or characteristics to control or limit emissions are specifically exempt. For example, Power Boiler No. 7 is required to meet an SO₂ standard. WestRock Tacoma Mill achieves this standard by limiting the sulfur in the fuel, which is not considered a control device under 40 CFR Part 64, and therefore WestRock Tacoma Mill is not required to submit a CAM Plan for that standard as it relates to Power Boiler No. 7. Similarly, the definition of control equipment specifically excludes the use of combustion or other process design features to control or limit emissions. For several pollutants, such as for CO, NO_x, TRS, and VOCs, WestRock Tacoma Mill uses such combustion controls or process design, hence for those pollutants the table indicates that WestRock Tacoma Mill does not use control equipment to achieve the standard.

Opacity standards are unique because opacity is not measured in mass rate or mass concentration, such as pounds per hour or grams per cubic meter. In fact, there is no mass specifically related to opacity. That is, WestRock Tacoma Mill cannot emit 100 tons a year of opacity and therefore the pre-control emissions of opacity are assumed to be less than 100 tons per year. However, there is often a relationship between opacity and particulate matter emissions and in that case opacity limits are considered to be subject to CAM. Ecology considers COMs as a direct method of compliance with opacity standards.

Most EPA emission standards adopted since 1990 are specifically exempt from requiring a CAM Plan submittal, because EPA has included all the necessary elements of the plan in the standard. 40 CFR Part 63 Subparts S, MM, and DDDDD are such standards.

40 CFR 64.2(b)(1)(vi) also exempts Part 70 and 71 emission limits or standards that are required to use continuous compliance determination methods to demonstrate compliance.

In some cases, WestRock Tacoma Mill is subject to an applicable requirement for a pollutant adopted before 1990 and EPA has adopted a more recent applicable requirement that incorporates CAM. Permit Condition A.1a for particulate is such a requirement. Recovery Furnace No. 4 is subject to a 0.044 gr/dscf corrected to 8% O₂ standard contained in 40 CFR 60.282(a)(1)(i); these applicable requirements do not contain monitoring requirements sufficient to satisfy the CAM requirements. However, since 1990 EPA has adopted an applicable requirement in 40 CFR 63.862(a)(1)(i) for

0.044 gr/dscf that does contain a CAM requirement, those requirements (in Condition A.8b) can be referenced for the limit in Condition A.1a to satisfy the Part 64 requirement. Therefore, WestRock Tacoma Mill is proposing to use the CAM Plan requirements in 40 CFR Part 63 Subpart MM as the CAM Plan for the particulate requirements contained in 40 CFR 60.282(a)(1)(i). In other cases, such as for particulate from lime kilns, EPA has adopted a more stringent applicable requirement that contains a CAM requirement in 40 CFR Part 63 Subpart MM.

Tables 12 through 19 below documents the process of identifying each standard for which CAM applies and whether a CAM plan is required. Tables 12 through 19 list the emission limitation or standards for pollutants at the WestRock Tacoma Mill. The first column lists the associated condition in the permit. The second column identifies the specific pollutant. The third column gives a short description of the applicable standard. The forth column identifies if the permit condition is federally enforceable. The fifth column identifies if a control device is used to achieve compliance. The sixth and seventh columns are the pre-control emissions and the major source threshold for the pollutant. The 8th column identifies if the pre-control emissions exceed the major source threshold. The ninth column identifies if CAM is applicable to the condition. The 10th and 11th columns state if the condition is subject to either of the two CAM Exemptions: If the Permit condition is federal limit proposed after November 15, 1990 or if the permit condition specifies a continuous compliance determination method. The final column identifies if a CAM Plan is necessary to demonstrate continuous compliance with the standard.

TABLE 12. RECOVERY FURNACE NO. 4 CAM APPLICABILITY

Permit Condition	Pollutant	Applicable Emission Limit or Standard	Federally Enforceable?	Use control device to comply w/ limit or std?	Pre-controlled emission (tpy)	Major source threshold (tpy)	Pre-controlled emissions greater than or equal to major source threshold (tpy)?	CAM Applicable?	CAM Exemption: Federal limits proposed after 11/15/90	CAM Exemption: Permit specifies continuous compliance determination method	CAM required?
A.1a	PM	0.044 gr/dscf at 8% O2	YES	YES	14763	100	YES	YES	NO	NO	YES
A.1b	PM	0.10 gr/dscf at 8% O2	YES	YES	14763	100	YES	YES	NO	NO	YES
A.1c	PM (as opacity)	35% opacity (six minute average) for six percent of total possible contiguous periods of excess emission in quarter	YES	YES	14763	100	YES	YES	NO	YES	NO
A.1d	PM (as opacity)	when firing or co-firing oil) Average 20% for more than 6 consecutive minutes in any 60 minute period except for one 6-minute period per hour of not more than 27%	YES	YES	14763	100	YES	YES	YES	NO	NO
A.2a	SO2	150 ppm at 8% O2, 30 day rolling average	YES	NO	669*	100	YES	NO	-	-	NO
A.2b	SO2	500 ppm @ 8% O2, hourly average	YES	NO	669*	100	YES	NO	-	-	NO
A.2c	SO2	669 tons/year as 12-month rolling total	YES	NO	669*	100	YES	NO	-	-	NO
A.3	Opacity (PM surrogate)	Average 35% for more than 6 consecutive minutes in any 60 minute period.	YES	YES	14763 (PM)	100	YES	YES	NO	YES	NO
A.4a	NOx	85 ppm @ 8% O2, 30-day rolling average	YES	NO	515*	100	YES	NO	-	-	NO
A.4b	NOx	515 tons/year as 12-month rolling total	YES	NO	515*	100	YES	NO	-	-	NO
A.4c	NOx	Maintain annual oil capacity factor less than 10% so that 40 CFR 60.44b NOX limit not applicable	YES	NO	515*	100	YES	NO	-	-	NO

Permit Condition	Pollutant	Applicable Emission Limit or Standard	Federally Enforceable?	Use control device to comply w/ limit or std?	Pre-controlled emission (tpy)	Major source threshold (tpy)	Pre-controlled emissions greater than or equal to major source threshold (tpy)?	CAM Applicable?	CAM Exemption: Federal limits proposed after 11/15/90	CAM Exemption: Permit specifies continuous compliance determination method	CAM required?
A.5a	CO	400 ppm @ 8% O ₂ , 30-day rolling average	YES	NO	1672*	100	YES	NO	-	-	NO
A.5b	CO	1672 tons/year as 12-month rolling total	YES	NO	1672*	100	YES	NO	-	-	NO
A.6	VOC	0.50 lb/ton BLS	YES	NO	18	100	NO	NO	-	-	NO
A.7	TRS	5 ppm by volume on a dry basis, corrected to 8% O ₂ , 12 hour average	YES	NO	13	100	NO	NO	-	-	NO
A.8a	HAPs (as PM)	0.044 gr/dscf @ 8% O ₂	YES	YES	14763 (PM)	25	YES	YES	YES	NO	NO
A.8b	HAPs (as Opacity)	Opacity greater than 35% for less than 2% of the operating time during a semiannual period	YES	YES	14763 (PM)	25	YES	YES	YES	YES	NO
A.9	TRS	5 ppm @ 8% O ₂ , daily average	NO	NO	13	100	NO	NO	-	-	NO

*This value is an emission limit and not the pre-controlled emission rate. Using this value will not affect the outcome of the CAM applicability determination because the emission limit is greater than the major source threshold.

TABLE 13. SMELT TANK NOS. 4E & 4W CAM APPLICABILITY

Permit Condition	Pollutant	Applicable Emission Limit or Standard	Federally Enforceable?	Use control device to comply w/ limit or std?	Pre-controlled emission (tpy)	Major source threshold (tpy)	Pre-controlled emissions greater than or equal to major source threshold (tpy)?	CAM Applicable?	CAM Exemption: Federal limits proposed after 11/15/90	CAM Exemption: Permit specifies continuous compliance determination method	CAM required?
B.1	PM	1.5 lbs/10,000 lbs BLS (0.3 lb/ton)	YES	YES	1263	100	YES	YES	NO	NO	YES
B.2	PM (as opacity)	Average 35% for more than 6 consecutive minutes in any 60 minute period	YES	YES	1263	100	YES	YES	NO	NO	YES
B.3a	HAPs (as PM)	0.10 kg/Mg (0.20 lb/ton) of black liquor solids fired	YES	YES	1263 (PM)	25	YES	YES	YES	YES	NO

TABLE 14. LIME KILN 1 CAM APPLICABILITY

Permit Condition	Pollutant	Applicable Emission Limit or Standard	Federally Enforceable?	Use control device to comply w/ limit or std?	Pre-controlled emission (tpy)	Major source threshold (tpy)	Pre-controlled emissions greater than or equal to major source threshold (tpy)?	CAM Applicable?	CAM Exemption: Federal limits proposed after 11/15/90	CAM Exemption: Permit specifies continuous compliance determination method	CAM required?
C.1	PM	0.13 gr/dscf @ 10% O2, one hour average	YES	YES	3217	100	YES	YES	NO	NO	YES
C.2	SO2	500 ppm @ 10% O2, hourly average	YES	NO	8	100	NO	NO	-	-	NO
C.3	Opacity	Average 35% for more than 6 consecutive minutes in any 60 minute period	YES	YES	3217 (PM)	100	YES	YES	NO	NO	YES
C.4a	HAPs (as PM)	0.15 g/dscm (0.064 gr/dscf) @ 10% O2	YES	YES	3217 (PM)	25	YES	YES	YES	YES	NO
C.5a	TRS	20 ppm @ 10% O2, daily average	NO	NO	6	100	NO	NO	-	-	NO
C.5b	TRS	80 ppm @ 10% O2, 2-hr average	NO	NO	6	100	NO	NO	-	-	NO

TABLE 15. LIME KILN 2 CAM APPLICABILITY

Permit Condition	Pollutant	Applicable Emission Limit or Standard	Federally Enforceable?	Use control device to comply w/ limit or std?	Pre-controlled emission (tpy)	Major source threshold (tpy)	Pre-controlled emissions greater than or equal to major source threshold (tpy)?	CAM Applicable?	CAM Exemption: Federal limits proposed after 11/15/90	CAM Exemption: Permit specifies continuous compliance determination method	CAM required?
C.1	PM	0.13 gr/dscf @ 10% O2, one hour average	YES	YES	992	100	YES	YES	NO	NO	YES
C.2	SO2	500 ppm @ 10% O2, hourly average	YES	NO	0.5	100	NO	NO	-	-	NO
C.3	Opacity	Average 35% for more than 6 consecutive minutes in any 60 minute period	YES	YES	992 (PM)	100	YES	YES	NO	NO	YES
C.4a	HAPs (as PM)	0.15 g/dscm (0.064 gr/dscf) @ 10% O2	YES	YES	992 (PM)	25	YES	YES	YES	YES	NO
C.5a	TRS	20 ppm @ 10% O2, daily average	NO	NO	6	100	NO	NO	-	-	NO
C.5b	TRS	80 ppm @ 10% O2, 2-hr average	NO	NO	6	100	NO	NO	-	-	NO

TABLE 16. POWER BOILER NO. 6 CAM APPLICABILITY

Permit Condition	Pollutant	Applicable Emission Limit or Standard	Federally Enforceable?	Use control device to comply w/ limit or std?	Pre-controlled emission (tpy)	Major source threshold (tpy)	Pre-controlled emissions greater than or equal to major source threshold (tpy)?	CAM Applicable?	CAM Exemption: Federal limits proposed after 11/15/90	CAM Exemption: Permit specifies continuous compliance determination method	CAM required?
D.1	PM	0.10 gr/dscf @ 7% O ₂	YES	NO	8	100	NO	NO	-	-	NO
D.2	Opacity	Average 20% for more than 6 consecutive minutes in any 60 minute period, except for emissions due to soot blowing or grate cleaning for up to 15 minutes in 8 consecutive hours	YES	NO	8 (PM)	100	NO	NO	-	-	NO
D.3	SO ₂	1000 ppm @ 7% O ₂ hourly average	YES	NO	2	100	NO	NO	-	-	NO

TABLE 17. COGEN COOLING TOWER CAM APPLICABILITY

Permit Condition	Pollutant	Applicable Emission Limit or Standard	Federally Enforceable?	Use control device to comply w/ limit or std?	Pre-controlled emission (tpy)	Major source threshold (tpy)	Pre-controlled emissions greater than or equal to major source threshold (tpy)?	CAM Applicable?	CAM Exemption: Federal limits proposed after 11/15/90	CAM Exemption: Permit specifies continuous compliance determination method	CAM required?
E.1	PM as PM10	4 tons/year on a 12-month rolling total, calculated monthly	YES	NO*	800	100	YES	NO	-	-	NO

*Per PSD 06-02, BACT for the cooling tower is the installation of a demister guaranteed to have a drift loss of less than 0.005% of the recirculating water flow rate. While the definition of “control device” in 40 CFR 64.1 includes “mist eliminators” as an example control device, it also says: “For purposes of this part, a control device does not include passive control measures to act to prevent pollutants from forming, such as the use of seals, lids, or roofs to prevent the release of pollutants”. Ecology considers the demister on the cooling tower to be passive control device.

TABLE 18. POWER BOILER NO. 7 CAM APPLICABILITY

Permit Condition	Pollutant	Applicable Emission Limit or Standard	Federally Enforceable?	Use control device to comply w/ limit or std?	Pre-controlled emission (tpy)	Major source threshold (tpy)	Pre-controlled emissions greater than or equal to major source threshold (tpy)?	CAM Applicable?	CAM Exemption: Federal limits proposed after 11/15/90	CAM Exemption: Permit specifies continuous compliance determination method	CAM required?
E.2a	PM	0.05 gr/dscf @7% O ₂	YES	YES	2135	100	YES	YES	NO	NO	YES

Permit Condition	Pollutant	Applicable Emission Limit or Standard	Federally Enforceable?	Use control device to comply w/ limit or std?	Pre-controlled emission (tpy)	Major source threshold (tpy)	Pre-controlled emissions greater than or equal to major source threshold (tpy)?	CAM Applicable?	CAM Exemption: Federal limits proposed after 11/15/90	CAM Exemption: Permit specifies continuous compliance determination method	CAM required?
E.2b	PM	0.020 lb/MMBtu on a calendar day basis	YES	YES	2135	100	YES	YES	NO	NO	YES
E.2c	PM	0.085 lb/mmBtu, except during SSM periods	YES	YES	2135	100	YES	YES	YES	NO	NO
E.2f	PM, filterable	0.037 lb/MMBtu as 30-day rolling average of heat input	YES	YES	2135	100	YES	YES	YES	NO	NO
E.2h	PM, filterable	99 tons/year on a 12-month rolling total	YES	YES	2135	100	YES	YES	NO	NO	YES
E.3a	PM (as opacity)	10% average for more than 6 consecutive minutes in any 60 minute period.	YES	YES	2135	100	YES	YES	NO	NO	YES
E.3b	PM (as opacity)	Average 20% for more than 6 consecutive minutes in any 60 minute period, except for one six minute period of not more than 27% opacity and except during periods of SSM	YES	YES	2135	100	YES	YES	YES	NO	NO
E.3c	PM (as opacity)	Average 20% for more than 6 consecutive minutes in any 60 minute period, except for exceptions or alternative standards in WAC 173-405-040	YES	YES	2135	100	YES	YES	NO	NO	YES

Permit Condition	Pollutant	Applicable Emission Limit or Standard	Federally Enforceable?	Use control device to comply w/ limit or std?	Pre-controlled emission (tpy)	Major source threshold (tpy)	Pre-controlled emissions greater than or equal to major source threshold (tpy)?	CAM Applicable?	CAM Exemption: Federal limits proposed after 11/15/90	CAM Exemption: Permit specifies continuous compliance determination method	CAM required?
E.4a	NOx	0.30 lbs/MMBTU, 30-day rolling average	YES	NO	782*	100	YES	NO	-	-	NO
E.4b	NOx	782 tpy as 12-month rolling total	YES	NO	782*	100	YES	NO	-	-	NO
E.4c	NOx	Creosote treated wood shall not exceed 40% of the fuel mix, by weight, on a 30-day rolling average.	YES	NO	782*	100	YES	NO	-	-	NO
E.5a	SO2 from oil	0.5 lb/MMBTU, 30-day rolling average	YES	NO	383*	100	YES	NO	-	-	NO
E.5b.1	SO2	220 lbs/hr, 1 hour average	YES	NO	383*	100	YES	NO	-	-	NO
E.5b.2	SO2	383 tons/yr, 12 month rolling total	YES	NO	383*	100	YES	NO	-	-	NO
E.5b.3	SO2	Fuel oil less than or equal to 2% sulfur by weight	YES	NO	383*	100	YES	NO	-	-	NO
E.5b.4	SO2	10% annual capacity factor from oil	YES	NO	383*	100	YES	NO	-	-	NO
E.5c	SO2	1000 ppm @ 7% O2, hourly average	YES	NO	383*	100	YES	NO	-	-	NO
E.6a	CO	0.35 lb/MMBtu on a 30-day rolling average, 30-day rolling average	YES	NO	913*	100	YES	NO	-	-	NO
E.6b	CO	720 ppm by volume on a dry basis @ 3% O2	YES	NO	913*	100	YES	NO	-	-	NO
E.6c	CO	913 tpy as 12-month rolling total	YES	NO	913*	100	YES	NO	-	-	NO
E.7	VOC	0.13 lbs/MMBTU	YES	NO	11.47	100	NO	NO	-	-	NO
E.8a	HCl	0.022 lb/MMBTU	YES	YES	268.43	10	YES	YES	YES	NO	NO
E.9a	Hg	5.7E-06 lb/MMBTU	YES	NO	0.0016	10	NO	NO	-	-	NO

Permit Condition	Pollutant	Applicable Emission Limit or Standard	Federally Enforceable?	Use control device to comply w/ limit or std?	Pre-controlled emission (tpy)	Major source threshold (tpy)	Pre-controlled emissions greater than or equal to major source threshold (tpy)?	CAM Applicable?	CAM Exemption: Federal limits proposed after 11/15/90	CAM Exemption: Permit specifies continuous compliance determination method	CAM required?
E.9d	Hg	7.1 lb per 24-hr period	YES	NO	0.0016	10	NO	NO	-	-	NO

*This value is an emission limit and not the pre-controlled emission rate. Using this value will not affect the outcome of the CAM applicability determination because the emission limit is greater than the major source threshold.

TABLE 19. CAUSTICIZER SLAKER VENT CAM APPLICABILITY

Permit Condition	Pollutant	Applicable Emission Limit or Standard	Federally Enforceable?	Use control device to comply w/ limit or std?	Pre-controlled emission (tpy)	Major source threshold (tpy)	Pre-controlled emissions greater than or equal to major source threshold (tpy)?	CAM Applicable?	CAM Exemption: Federal limits proposed after 11/15/90	CAM Exemption: Permit specifies continuous compliance determination method	CAM required ?
F.1	PM	10 gr/dscf @ standard conditions	YES	YES	14	100	NO	NO	-	-	NO

13.1 CAM Monitoring

As shown in the tables above, there are pollutant specific emission units (PSEUs) that require a CAM Plan. These are: Recovery Furnace No.4, Lime Kilns Nos. 1 and 2, and Smelt Tanks Nos. 4E and 4W. For PSEUs required to have a CAM Plan, 40 CFR 64.6 requires that the permit specify the following monitoring requirements:

- 1) The approved monitoring approach (including indicators to be monitored, the means or device for measuring the indicator, and the performance requirements for the monitoring device);
- 2) How an exceedance or excursion is defined for response and reporting purposes;
- 3) The obligation to conduct the required monitoring; and
- 4) Minimum data availability for valid data collection, if appropriate.

The above requirements are incorporated in the permit for each of the PSEU's required to have a CAM Plan. These PSEU's use certain parameters to measure the performance of the control device, which is intended to assure continuous compliance. The use of such parameters as a measure of control device performance is consistent with both US EPA's Region 10's interpretation of the applicability of periodic monitoring and with the intent of the CAM rule in 40 CFR Part 64, that a reasonable assurance of compliance can be demonstrated through a control device performance indicator. With respect to the annual rolling average annual or other long term limits, the monitoring ensures that the pollution control devices are operated in a manner that ensures that the source tests used to calculate the emissions are representative of the actual emissions.

For each parameter, the permit specifies the operating condition or conditions that will trigger the requirement for corrective action to restore operation of the control device to its normal or usual manner of operation as expeditiously as practicable. If corrective action is not taken, it may be considered a violation of the underlying requirements. In addition, if Ecology determines that acceptable corrective actions were not implemented or if the specified parameter ranges are not sufficiently representative, development of a quality improvement plan may be required. Specific details about the CAM Plan for each PSEU is provided below.

13.1.1 Recovery Furnace No. 4

13.1.1.1 Applicable Regulations and Emission Limits

Table 20 below includes the permit limit requirements for Recovery Furnace (RF) No. 4 that are subject to CAM.

TABLE 20. RF4 CAM APPLICABLE REQUIREMENTS

Permit Condition	Pollutant	Applicable Emission Limit or Standard
A.1a	PM	0.044 gr/dscf at 8% O ₂
A.1b	PM	0.10 gr/dscf at 8% O ₂

13.1.1.2 Monitoring Approach

The CAM plan for the two permit conditions in Table 20 above is the continuous monitoring requirements already established by the EPA in the 40 CFR Part 63 Subpart MM standards for recovery furnaces. These requirements are in permit Condition A.8b. Table 21 below describes the proposed CAM approach for the limits.

TABLE 21. RF4 CAM Monitoring Approach

CAM Requirement	Description
General Monitoring Approach	Continuous opacity monitoring
Monitoring Exceedance	WestRock shall implement corrective action when a monitoring exceedance occurs. A monitoring exceedance occurs when the average of any ten consecutive 6-minute averages result in a measurement greater than 20 percent opacity.
Violations	A violation occurs when opacity exceeds 35% for 2% or more of the operating time during a semiannual period
Data Availability	CMS downtime shall be less than 10% of monthly unit operating time (Appendix B to AOP, Condition 2)
Data Representativeness	The monitor is located according to the requirements of 40 CFR Part 60 Appendix B, Performance Specification 1
Verification of Operational Status	PM source test using Method 5. Testing frequency determined by Appendix G of AOP.
QA/QC	The COMS must be installed and operated according to 40 CFR Part 60, Appendix B, Performance Specification 1 and daily drift checks required by 40 CFR 60.13
Monitoring Frequency	One cycle of sampling and analyzing for each successive 10-second period and one cycle of data recording for each successive 6-minute period. (40 CFR 60.13(e)(1))

13.1.1.3 Justification

This recovery furnace is subject to NSPS Subpart BB and NESHAP Subpart MM, both of which specify the same particulate standard of 0.044 gr/dscf at 8% O₂. Both the NSPS and the NESHAP require COMS. The NESHAP Subpart MM limit is specifically exempt from developing a CAM Plan because the requirement already contains CAM requirements.

Since the emission limits in the NESHAP and the NSPS are the same for this recovery furnace, the use of the monitoring required under the NESHAP for CAM for the NSPS standard is considered to be sufficient to demonstrate on-going compliance. The monitoring requirement for the NESHAP is also suitable to be used for CAM for Condition 1.b (0.10 gr/dscf at 8% O₂) because it is a higher emission limit than the NESHAP limit.

13.1.2 Smelt Tanks Nos. 4E & 4W

13.1.2.1 Applicable Regulations and Emission Limits

Table 22 below includes the permit limit requirements for Smelt Tanks Nos. 4E and 4W that are subject to CAM.

TABLE 22. CAM APPLICABLE REQUIREMENTS FOR SMELT TANKS NOS. 4E AND 4W

Permit Condition	Pollutant	Applicable Emission Limit or Standard
B.1	PM	1.5 lbs/10,000 lbs BLS (0.3 lb/ton)
B.2	Opacity	Average 35% for more than 6 consecutive minutes in any 60 minute period

13.1.2.2 Monitoring Approach

Table 23 below describes the proposed CAM approach for the limits specified in Table 22 above. CAM monitoring has been established based on 40 CFR Part 63 Subpart MM standards for the smelt tank. These conditions can be found in Permit Condition B.3b.

TABLE 23. SMELT DISSOLVING TANKS CAM MONITORING APPROACH

CAM Requirement	Description
General Monitoring Approach	Monitor fan amperage and scrubber flow continuously
Monitoring Exceedance	The ongoing surrogate values have been established through performance tests. Refer to permit for specific set points. The Permittee must begin corrective action when an exceedance occurs. An exceedance occurs when any 3-hour block average is out of compliance with fan amperage or scrubber flow requirements.

CAM Requirement	Description
	<p>The operation ranges shall be determined as follows:</p> <p>(i) During the initial performance test, establish operating ranges for the monitoring parameters of fan amperage and scrubber flow rate; or</p> <p>(ii) WestRock may base operating ranges on values recorded during previous performance tests or conduct additional performance tests for the specific purpose of establishing operating ranges, provided that test data used to establish the operating ranges are or have been obtained using the test methods required in 40 CFR Part 63 Subpart MM. WestRock must certify that all control techniques and processes have not been modified subsequent to the testing upon which the data used to establish the operating parameter ranges were obtained; or</p> <p>(iii) WestRock may establish expanded or replacement operating ranges for the monitoring parameter values established in paragraph (i) or (ii) of this section during subsequent performance tests using the test methods in 40 CFR 63.865.</p>
Violations	A violation occurs when 6 or more 3-hr block averages are out of compliance with fan amps or scrubber flow requirements during a 6 month reporting period.
Data Availability	CMS downtime shall be less than 10% of monthly unit operating time (Appendix B to AOP, Condition 2)
Data Representativeness	The monitoring device used for continuous measurement of the scrubbing liquid flow rate must be certified by the manufacturer to be accurate within ± 5 percent of the design scrubbing liquid flow rate.
Verification of Operational Status	PM source test using Method 5. Testing frequency determined by Appendix G of AOP.
QA/QC	Quality control program per 40 CFR Part 63.8(d).
Monitoring Frequency	WestRock must install, calibrate, maintain, and operate a continuous monitoring system that can be used to determine and record the fan amperage and the scrubbing liquid flow rate at least once every successive 15-minute period using the procedures in 40 CFR 63.8(c) and 63.864(e)(10)

13.1.2.3 Justification

These smelt dissolving tank vents are subject to NESHAP Subpart MM, which includes a HAP standard that has a particulate standard as a surrogate. The surrogate particulate standard is more stringent than the PM limit in Condition B.1. The NESHAP Subpart MM emission standard is specifically exempt from developing a CAM Plan because the regulation already contains CAM requirements. The same CAM requirements that are

required for the particulate surrogate for NESHAP Subpart MM will be used to demonstrate continuous compliance with the particulate limit in Condition B.1.

The smelt dissolving tanks are not equipped with COMS as the stacks are wet stacks (contain water vapor). COMS are not suitable for use in wet stacks. Therefore, WestRock cannot comply with the opacity condition from WAC 173-405-040(2) in Condition B.2 using a COMS and must implement CAM. Although the opacity limit from the WAC under condition B.2 is not linked explicitly to a particulate concentration, it is reasonable to rely on the monitoring from NESHAP Subpart MM for this requirement, as there is a relationship between opacity and particulate concentration, and the particulate limits in the WAC are less stringent than those in the NESHAP.

13.1.3 Lime Kiln Nos. 1 & 2

13.1.3.1 Applicable Regulations and Emission Limits

Table 24 below includes the permit limit requirements for Lime Kilns Nos. 1 and 2 that are subject to CAM.

TABLE 24. LIME KILNS NOS. 1 AND 2 CAM APPLICABLE REQUIREMENTS

Permit Condition	Pollutant	Applicable Emission Limit or Standard
C.1	PM	0.13 gr/dscf @ 10% O ₂ , one hour average
C.3	Opacity	Average 35% for more than 6 consecutive minutes in any 60 minute period

13.1.3.2 Monitoring Approach

Table 25 below describes the proposed CAM approach for the limits specified in Table 24 above. CAM monitoring has been established based on 40 CFR Part 63 Subpart MM standards for the lime kiln. These conditions can be found in permit condition C.4b.

TABLE 25. LIME KILNS NOS. 1 AND 2 CAM MONITORING APPROACH

CAM Requirement	Description
General Monitoring Approach	Monitor pressure drop and scrubber flow continuously

CAM Requirement	Description
Monitoring Exceedance	<p>The ongoing surrogate values have been established through performance tests. Refer to permit for specific set points.</p> <p>An exceedance occurs when any 3-hr block average is out of compliance with pressure drop or scrubber flow requirements.</p> <p>The operation ranges shall be determined as follows:</p> <p>(i) During the initial performance test, must establish operating ranges for the monitoring parameters of pressure drop and scrubbing liquid flow rate; or</p> <p>(ii) WestRock may base operating ranges on values recorded during previous performance tests or conduct additional performance tests for the specific purpose of establishing operating ranges, provided that test data used to establish the operating ranges are or have been obtained using the test methods required in 40 CFR 63 subpart MM. WestRock must certify that all control techniques and processes have not been modified subsequent to the testing upon which the data used to establish the operating parameter ranges were obtained; and</p> <p>(iii) WestRock may establish expanded or replacement operating ranges for the monitoring parameter values and established in paragraph (i) or (ii) of this section during subsequent performance tests using the test methods in 40 CFR 63.865.</p>
Violations	A violation occurs when 6 or more 3-hr block averages are out of compliance with pressure drop or scrubber flow requirements during a 6 month reporting period
Data Availability	CMS downtime shall be less than 10% of monthly unit operating time (Appendix B to AOP, Condition 2)
Data Representativeness	The monitoring device used for the continuous measurement of the pressure drop of the gas stream across the scrubber must be certified by the manufacturer to be accurate to within a gage pressure of ± 500 pascals (± 2 inches of water gage pressure); and the monitoring device used for continuous measurement of the scrubbing liquid flow rate must be certified by the manufacturer to be accurate within ± 5 percent of the design scrubbing liquid flow rate.
Verification of Operational Status	PM source test using Method 5. Testing frequency determined by Appendix G of AOP.
QA/QC	QA/QC program per 40 CFR 63.8(d).

CAM Requirement	Description
Monitoring Frequency	WestRock must install, calibrate, maintain, and operate a continuous monitoring system that can be used to determine and record the pressure drop across the scrubber and the scrubbing liquid flow rate at least once every successive 15-minute period using the procedures in 40 CFR 63.8(c) and 63.864(e)(10).

13.1.3.3 Justification

These lime kilns are subject to NESHAP Subpart MM which includes a HAP standard that has a particulate standard as a surrogate. The surrogate PM standard is more stringent than the PM limit in Condition C.1. The NESHAP subpart MM emission standard is specifically exempt from developing a CAM Plan because the requirement already contains CAM requirements. The same CAM requirements that are required for the particulate surrogate will be used to demonstrate continuous compliance with the particulate limit. WestRock will continue to use the monitoring that is in the current version of its AOP.

The lime kilns are not equipped with COMS as the stacks are wet stacks (contain water vapor). COMS are not suitable for use in wet stacks. Therefore, WestRock cannot comply with the opacity condition from WAC 173-405-040(9) in Condition C.3 using a COMS and must implement CAM. Although the opacity limit from the WAC under condition C.3 is not linked explicitly to a particulate concentration, it is reasonable to rely on the monitoring from NESHAP Subpart MM for this requirement, as there is a relationship between opacity and particulate concentration, and the particulate limits in the WAC are less stringent than those in the NESHAP.

13.1.4 Power Boiler No. 7

13.1.4.1 Applicable Regulations and Emission Limits

Table 26 below includes the permit limit requirements for Power Boiler No. 7 that are subject to CAM.

TABLE 26. CAM APPLICABLE REQUIREMENTS FOR PB7

Permit Condition	Pollutant	Applicable Emission Limit or Standard
E.2a	PM	0.05 gr/dscf @7% O ₂
E.2b	PM	0.020 lb/MMBtu on a calendar day basis
E.2h	PM, filterable	99 tons/year on a 12-month rolling total
E.3a	PM (as opacity)	10% average for more than 6 consecutive minutes in any 60 minute period.

Permit Condition	Pollutant	Applicable Emission Limit or Standard
E.3c	PM (as opacity)	Average 20% for more than 6 consecutive minutes in any 60 minute period, except for exceptions or alternative standards in WAC 173-405-040

13.1.4.2 Monitoring Approach

Table 27 below describes the proposed CAM approach for the limits specified in Table 26. CAM has been established based on a performance test. The CAM for these limits can be found in Permit Condition E.3a.

TABLE 27. PB 7 CAM MONITORING APPROACH

CAM Requirement	Description
General Monitoring Approach	Total Secondary Power to ESP
Violations	Maintain a minimum kilowatts total secondary power to both sides of the ESP. A violation occurs when any 3-hour block average is less than 8 kilowatts, unless otherwise specified in permit condition.
Data Availability	CMS downtime shall be less than 5% of monthly unit operating time (Appendix B to AOP, Condition 1)
Data Representativeness	Sensors are installed to measure secondary voltage and current to the precipitator collection per 40 CFR 63.7525(h)(1). Data is to be collected once every successive 15-minute period per Condition E.3a.
Verification of Operational Status	PM source test using Method 5. Testing frequency determined by Appendix G of AOP.
QA/QC	A performance evaluation of the electric power monitoring system is performed no less frequently than annually per 40 CFR 63.7525(h)(2)
Monitoring Frequency	Data is monitored to collect total secondary power at least once every successive 15-minute period.

13.1.4.3 Justification

This power boiler is subject to NSPS Subpart Db which requires the installation and operation of a continuous opacity monitoring system (COMS). However, in order to comply with Boiler MACT HCl limits, the mill installed a wet scrubber in May 2016. The wet gas scrubber was installed downstream of the ESP. There is no acceptable duct run to install a COMS upstream of the scrubber and the wet gas scrubber will present condensed flue gas within the stack. These factors make it essentially impossible to

continuously monitor opacity, as currently required by AOP terms E.3a, E.3b, and E.3c. The issue of continuously monitoring opacity on emission units with condensing flue gas is not unusual, and it is explicitly anticipated by NSPS Subpart Db and Boiler MACT. There is precedent of the EPA and state and local agencies approving alternatives to COMS in these situations.

ESP performance (collection efficiency) is directly proportional to the total secondary power input to the ESP. Total secondary power input is a measure of the total electrical energy spent on the removal of particulates from the exhaust gas stream. Generally, a decrease in total secondary power input indicates lower ESP performance. For a multi-field ESP, total secondary power input (kW) is the sum of the product of total secondary voltage and total secondary current. The collection plates need to be cleaned at regular intervals. If they are dirty, the secondary voltage continues to remain high even though there is a drop in the ESP performance. In such instances the secondary current drops. Monitoring of secondary power (which is a product of the voltage and current) provides reasonable assurance of ESP performance. See paragraph below that discusses the background for the secondary power parametric monitoring 3-hour limit for opacity.

The WestRock Tacoma Mill reviewed the data from January 2011 through February 2016. One period of time was identified (January 19, 2015) when the south side of the precipitator was suffering from some malfunctions. There was a period of 5 hours when secondary power dropped to ~20% of normal (8 kW compared to typical 44 kW) while the boiler continued to steam near its capacity and burning 100% solid fuel. Opacity in the South stack did increase to a maximum 6-minute average of 4.2% from its normal range of ~1%. This data set shows that if precipitator power can be maintained above 8 kW per side, regardless of fuel type and steaming rate, the boiler opacity would remain below 10% (See Figure 1 below).

It is reasonable to apply this monitoring requirement to the other particulate limits in Table 26, as the 10% opacity limit was established as BACT (best available control technology) for Power Boiler No.7. This monitoring requirement has also been applied to the 20% opacity limit in Table 26. This is reasonable as the 10% opacity for which the secondary ESP limit was created is the most stringent of the two opacity limits.

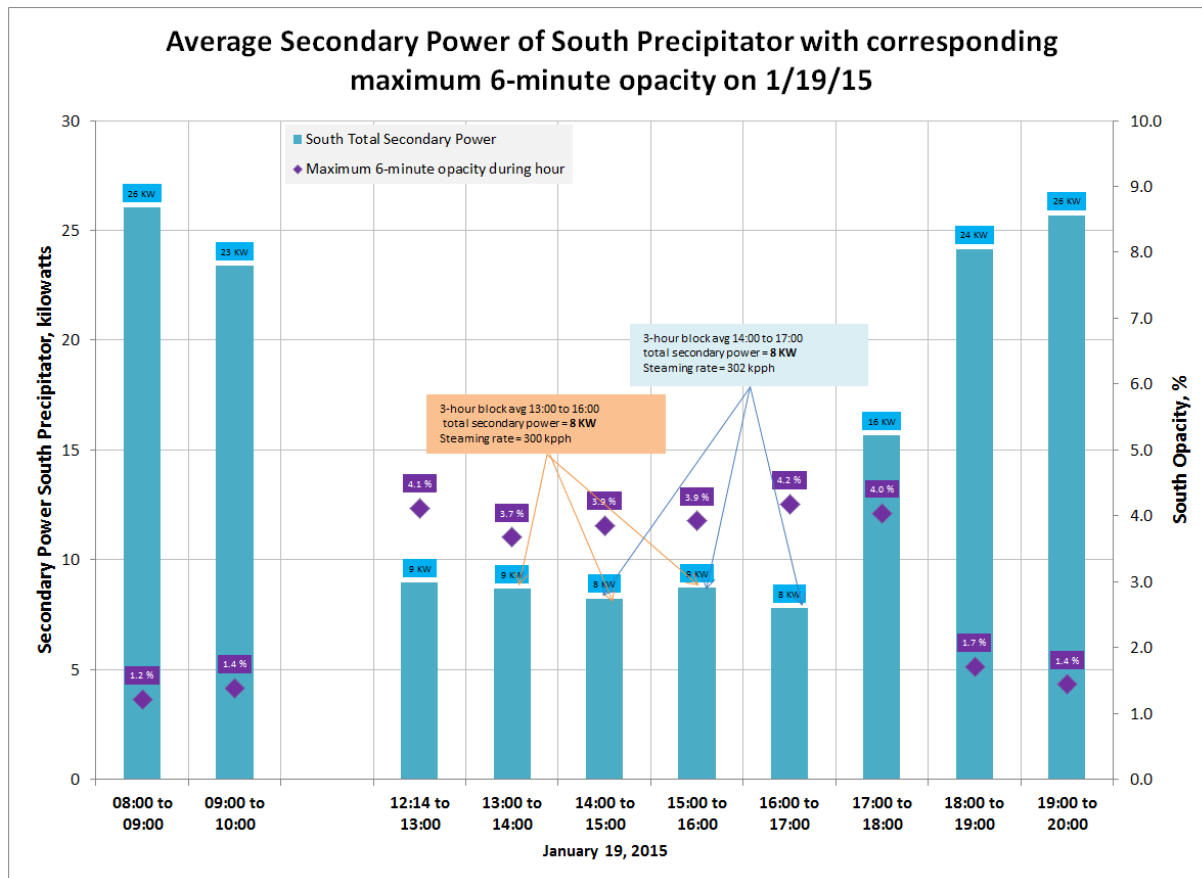


FIGURE 1 OPACITY VS SECONDARY POWER FOR PB7

14. GREEN HOUSE GASES (GHG)

For sources with a Title V permit, reporting GHG emissions became effective January 2, 2011. WestRock Tacoma Mill triggered both EPA's Tailoring Rule and Washington State's chapter 173-441 WAC regulation implementing GHG reporting requirements because GHG emissions from the Kraft mill operations are above 25,000 metric tons per year.

15. REGULATORY ORDERS AND PERMITS

The Permittee is subject to a PSD permit and several regulatory orders. The only PSD permit issued to this facility and effective is PSD-06-02. PSD-06-02, Order No. 4153-AQ07, Order No. 99AQIS-94, and Order No. DE 01AQIS-3114 were modified concurrently with the reissuance of this permit. See Section 8 of this document for more information on the modifications. Regulatory Orders in effect at WestRock Tacoma Mill include:

- NOC Order No. 4153-AQ07
- Order No. DE 01AQIS-3114,
- Order No. DE 99AQIS-94,
- Agreed Order No. DE 95-AQ1006,
- Order No. 6161,

- NOC Order No. 10948,
- NOC Order No. 15833

Brief descriptions of the significant permitting activities are listed below.

Installation of Turbine Generator and Cooling Tower, PSD Permit, Approval Issued May 22, 2007

WestRock Tacoma Mill received a PSD permit from Ecology on May 22, 2007 for the installation of a steam turbine generator driven by steam produced from the existing Recovery Furnace No. 4 and Power Boiler No. 7; referred to as the Cogeneration (Cogen) Project. This project allows the facility to cogenerate and distribute electric power to the mill and to the grid. As part of this project, Power Boiler No. 7 was modified to increase its maximum continuous rated capacity from 300,000 lb/hr to 340,000 lb/hr steam, and produce higher pressure and temperature steam. Completed modifications for the boiler included adding tube area to the superheat section, the installation of larger forced-draft and induced-draft fan motors, wood fuel feed system improvements, electrostatic precipitator, and other ancillary systems.

Installation of Over-fired Air (OFA) System, Approval Issued April 21, 2006

Ecology issued NOC Order No. 3255-AQ06 for the installation of an improved over fire air (OFA) system on Power Boiler No. 7 on April 21, 2006. WestRock Tacoma Mill completed construction of the OFA project in October 2006. The OFA system was installed to allow WestRock Tacoma Mill to utilize more biomass and decrease the usage of fossil fuels in the Power Boiler No. 7 while still meeting the existing emission limits. An OFA system improves the distribution of combustion air in the furnace, allowing WestRock Tacoma Mill to burn high moisture biomass without needing additional fossil fuel to increase the furnace temperature for complete combustion.

16. FACILITY CHANGES

The changes listed below have been made to the mill since the 2011 AOP renewal. Smaller projects, such as routine maintenance, repair, or replacement projects, have not been included.

- In 2014, Simpson Tacoma Kraft, LLC sold the mill to the RockTenn Corporation. In 2015 RockTenn merged with the MeadWestvaco Company to form the WestRock Company. WestRock CP, LLC is the current owner and operator of the mill.
- In 2014, the refiner for Paper Machine No. 13 was replaced (NOC No. 10948).
- PSD 06-02, Amendment 1, was issued on March 22, 2016. The key change addressed in the amendment is the change in the NOx limit for Power Boiler No. 7 to 0.30 lb/MMBtu.

- In 2016, Tacoma Mill added a wet spray tower scrubber to Power Boiler No. 7 in order to comply with 40 CFR Part 63 Subpart DDDDD (Boiler MACT). The project was approved by Ecology in a letter dated September 22, 2015. This project interfered with WestRock's ability to monitor opacity. COMs are not a viable way to monitor opacity on a wet stack. WestRock now uses an alternative monitoring parameter (ESP secondary power) in lieu of a COMs. This alternative monitoring parameter and limit were approved by Ecology on May 23, 2016.
- In 2018, WestRock installed low NO_x burners on PB6.
- In 2018, WestRock's Chip Thickness Screening Project was approved through NOC Order No. 15833. The order approved the replacement of two existing cyclones with a new high efficiency cyclone in association with the chip thickness screening project. It was projected that chip processing in the screening system would increase from 2,278 bone dry tons per day to 2,349 bone dry tons per day.

17. EMISSION UNIT DESCRIPTION

The following table provides the emission units, descriptions, and control equipment.

TABLE 28. EMISSION UNITS AND AIR POLLUTION CONTROL EQUIPMENT

Emission Unit	Emission Inventory ID. No.	Segment No.	Emission Point	Emission Point Description	Air Pollution Control Equipment
Kraft Pulping	N/A	N/A	LVHC	LVHC Non-condensable Gas Venting	The non-condensable gases from the Kamyr digester and evaporator areas are piped into the low volume, high concentration non-condensable gas system for incineration in the lime kilns.
Kraft Pulping	N/A	N/A	HVLC	HVLC Non-condensable Gas Venting	The non-condensable gases from the pulp screening and washing processes are piped into the high volume, low concentration non-condensable gas system for incineration in the recovery furnace.
Bleach Plant	N/A	N/A	BPSE	Bleach Plant Scrubber Exhaust	The bleach plant and chlorine dioxide plant vented gases, with the exception of the gases from the extraction stage tower, are collected and treated in the bleach plant scrubber, which uses an alkaline scrubbing solution, prior to discharge.
Bleach Plant	N/A	N/A	BPET	Second Stage/Extraction Tower Vent	None
Black Liquor Recovery	N/A	N/A	SLST	Strong Black Liquor Storage Tanks (5)	None
Recovery Furnace No. 4	10	01	RB4MS	Recovery Furnace No. 4 Electrostatic Precipitator Exhaust	Electrostatic precipitator

Emission Unit	Emission Inventory ID. No.	Segment No.	Emission Point	Emission Point Description	Air Pollution Control Equipment
Smelt Dissolving Tank No. 4E	12	01	SDT4TE	Smelt Dissolving Tank No. 4 East	Wet scrubber
Smelt Dissolving Tank No. 4W	12	02	SDT4TW	Smelt Dissolving Tank No. 4 West	Wet scrubber
Caustic Department	N/A	N/A	CASC	Caustic Department Slaker and Causticizer Vent	In the Caustic Department, all tanks and process vessels are open to the atmosphere except the slaker. Where the boiling action might create particulate emissions; this source is equipped with a scrubbing system.
Caustic Department	N/A	N/A	CACZ1	Caustic Department Causticizer Vent No. 1	In the Caustic Department, all tanks and process vessels are open to the atmosphere except the slaker. Where the boiling action might create particulate emissions; this source is equipped with a scrubbing system.
Caustic Department	N/A	N/A	CACZ2	Caustic Department Causticizer Vent No. 2	In the Caustic Department, all tanks and process vessels are open to the atmosphere except the slaker. Where the boiling action might create particulate emissions; this source is equipped with a scrubbing system.
Caustic Department	N/A	N/A	CALO	Caustic Department Lime Mud Oxidation Exhaust	In the Caustic Department, all tanks and process vessels are open to the atmosphere except the slaker. Where the boiling action might create particulate emissions; this source is equipped with a scrubbing system.

Emission Unit	Emission Inventory ID. No.	Segment No.	Emission Point	Emission Point Description	Air Pollution Control Equipment
Lime Kiln No. 1	14	01, 02, 03	LK1MS	Lime Kiln No. 1 Main Stack	Wet scrubber
Lime Kiln No. 2	15	01, 02, 03	LK2MS	Lime Kiln No. 2 Main Stack	Wet scrubber
Power Boiler No. 6	24	01, 02	PB6MS	Power Boiler No. 6 Main Stack	None
Power Boiler No. 7	25	01, 02	PB7MS	Power Boiler No. 7 Main Stack	Two parallel electrostatic precipitator cells (north and south), followed by a single wet scrubber.
Cogeneration Cooling Tower			CTWR	Cogeneration Cooling Tower Exhausts	Drift Eliminators

18. STATE-ONLY VS. FEDERALLY ENFORCEABLE REQUIREMENTS

There are a few permit conditions which are considered to be state-only requirements. These requirements are based on state rules or standards that are not included as part of the state implementation plan (SIP), SEPA related requirements, or other underlying requirements that are not federally mandated. State-only requirements are not considered to be federally enforceable requirements and are identified as state-only within the permit itself.

19. APPLICABILITY OF STATE AIR QUALITY REQUIREMENTS (BACT, PSD, AND LAER)

Prevention of Significant Deterioration (PSD): Power Boiler No. 7

Lowest Achievable Emission Rate (LAER): Not Applicable

Best Achievable Control Technology (BACT): Recovery Furnace No. 4, Power Boiler No. 7

20. DISCUSSION OF GENERAL CONDITIONS

The General Conditions in the permit contain generally applicable requirements which apply facility-wide, including insignificant emission units or activities. Insignificant emission units or activities, however, are not subject to monitoring, testing, recordkeeping, or reporting requirements. New, updated, or requirements requiring additional explanation are detailed below.

20.1 General Conditions 8, 9 and 12

Permit Condition 8 is the generic opacity limitation from WAC 173-405-040(6), which addresses kraft mills. Permit Conditions 9 and 12 work together to assure compliance with Condition 8 by requiring, first, that facility equipment be maintained and operated “in a manner consistent with good air pollution control practice” and, second, that the permittee record and promptly respond to complaints received or possible noncompliance noticed by facility staff. Ecology believes that this is a practical and effective way to assure compliance because the emission units covered by this condition do not have control devices that can be monitored and they have a very low risk of producing visible emissions except during process upsets. The mill is staffed around the clock and appropriate staff are trained to notice and report unusual conditions, such as those associated with upsets. It is a violation of the permit to fail to take corrective action when an instance of possible noncompliance has been reported and found to be valid. Ecology believes that imposing additional monitoring such as a weekly visual inspection would have little value in identifying noncompliance and would, by presence, possibly convey a false sense of compliance.

20.2 General Condition 10

All fuel combustion units assure compliance when firing natural gas and fuel oil based on the calculations presented below.

EQUATION 1. VOLUME OF GAS PER LB-MOLE AT STANDARD CONDITIONS

$$\frac{V}{n} = \frac{RT}{P}$$

V=volume

n = number of lb-moles

P= pressure at standard conditions, 1 atm (per 40 CFR Part 60, Appendix A, Method 19)

T= temperature at standard conditions, 528°R (per 40 CFR Part 60, Appendix A, Method 19)

R = ideal gas constant, 0.73 ft³-atm/lbm-°R

Substituting the above values into Equation 1 gives a volume of 385 dscf/lb-mol. 1 lb-mole of SO₂ weighs 64 lbs. The conversion factor of 385 dscf SO₂ / 64 lbs SO₂ is used in the calculations below for sulfur emitted when firing fuel oil and natural gas.

a. Sulfur Content Limit When Firing Fuel Oil

- F_d = 9,190 dscf/MMBtu for residual oil ("F" factor from 40 CFR Part 60, App. A, Method 19). The "F" factor is the ratio of the gas volume of the products of combustion to the heat content of the fuel at standard conditions.
- The heating value of fuel oil is 18,750 BTU / lb
- Sulfur concentration is limited to 2% by weight.

EQUATION 2. CALCULATION FOR SULFUR CONCENTRATION WHEN FIRING OIL

$$\frac{\left(\frac{0.02 \text{ lb S}}{\text{lb oil}}\right) \left(\frac{2 \text{ lb SO}_2}{\text{lb S}}\right) \left(\frac{385 \text{ dscf SO}_2}{64 \text{ lb SO}_2}\right)}{\left(\frac{18,750 \text{ BTU}}{\text{lb oil}}\right) \left(\frac{9,190 \text{ dscf flue gas}}{10^6 \text{ BTU}}\right)}$$

or,

EQUATION 3. SOLVED CALCULATION FOR SULFUR CONCENTRATION WHEN FIRING OIL

$$\frac{0.00140 \text{ dscf SO}_2}{\text{dscf flue gas}} = 1,400 \text{ ppmvd SO}_2$$

Corrected to 7% O₂:

EQUATION 4. OXYGEN CORRECTION FOR SULFUR CONCENTRATION WHEN FIRING OIL

$$1,400 \text{ ppmvd SO}_2 \times \frac{20.9-7.0}{20.9} = 930 \text{ ppmvd SO}_2 \text{ at } 7\% \text{ O}_2$$

Therefore, the sulfur content limit of 2% in the fuel oil assures compliance with 1,000 ppmvd corrected to 7% O₂ as required by WAC 173-405-040(11)(b). No ongoing compliance demonstration measures are required.

b. Sulfur Content Limit When Firing Natural Gas

- $F_d = 8,710$ dscf/MMBtu for natural gas ("F" factor from 40 CFR Part 60, App. A, Method 19). The "F" factor is the ratio of the gas volume of the products of combustion to the heat content of the fuel at standard conditions.
- 0.6 lb SO₂/MMcf of natural gas. (Taken from Table 1.4-1, 1.4-2, & 1.4-3 of AP-42, for natural gas combustion in a large industrial boiler.)
- The heating value of natural gas is 1,035 BTU/cf

EQUATION 5. CALCULATION FOR SULFUR CONCENTRATION WHEN FIRING NATURAL GAS

$$\frac{0.6 \text{ lb SO}_2}{10^6 \text{ cf natural gas}} \times \frac{\text{cf natural gas}}{1,035 \text{ BTU}} \times \frac{10^6 \text{ BTU}}{8,710 \text{ dscf flue gas}} \times \frac{385 \text{ dscf SO}_2}{64 \text{ lb SO}_2}$$

or,

EQUATION 6. SOLVED CALCULATION FOR SULFUR CONCENTRATION WHEN FIRING NATURAL GAS

$$4 \times 10^{-7} \frac{\text{dscf SO}_2}{\text{dscf flue gas}} = 0.4 \text{ ppmvd SO}_2$$

EQUATION 7 . OXYGEN CORRECTION FOR SULFUR CONCENTRATION WHEN FIRING NATURAL GAS

$$0.4 \text{ ppmvd SO}_2 \times \frac{20.9 - 7.0}{20.9} = 0.3 \text{ ppmvd}$$

According to the calculations, the sulfur dioxide emissions are less than the limit of 1,000 ppmvd SO₂ at 7% oxygen imposed by WAC 173-405-040(11). No ongoing compliance demonstration measures are required.

For sources other than fuel combustion, Ecology has not imposed monitoring for units unlikely to have a reasonable potential of exceeding SO₂ emission limits. Surrogate monitoring for intervals between direct SO₂ testing was not imposed because in practice mills do not adjust operating parameters to minimize SO₂ emissions. There are no control devices or control strategies to allow this. Instead, SO₂ emissions are largely a function of equipment and process design. The nature of the kraft process is optimized by system stability and continuity. Ecology has no basis to believe that process parameters fluctuate to a degree that results in SO₂ emissions approaching the 1,000 ppm limit and thus warranting surrogate monitoring.

20.3 General Condition 11

In previous renewals of this permit, Condition 11 in the Facility-Wide General Requirements Section was previously reserved for future use. Condition 11 has now been used to include a credible evidence requirement. This was done at the request of local air authorities.

20.4 General Condition 18

General Condition 18 incorporates the asbestos requirements in 40 CFR Part 61 Subpart M and WAC 173-400-075. If the Permittee performs demolition or renovation work involving asbestos-containing materials, they must notify Ecology. The Permittee must also adhere to handling requirements, including emission control strategies, if applicable, and disposal and labelling requirements.

The requirements in 40 CFR Part 61 Subpart M and WAC 173-400-075 are separate from the enforcement of worker protection asbestos regulations by the Washington State Department of Labor and Industries.

20.5 General Condition 23

This condition includes references to two different WAC chapters: 173-400-107 and 173-400-109. These chapters are applicable to the Permittee per WAC 173-405-077. Currently, 173-400-107 is in effect. It will remain in effect until the effective date of EPA's removal of the September 20, 1993 version of WAC 173-400-107 from the State Implementation Plan (SIP). Upon the removal of WAC 173-400-107, WAC 173-400-109 will become effective.

WAC 173-400-107 allowed for excess emissions to be excused and not subject to penalty if the Permittee could prove to Ecology that the excess emissions were unavoidable.

After WAC 173-400-109 is in effect, the unavoidable excess emissions section will not be applicable for exceedances of emission standards promulgated under NSPS, NESHAP, or MACT. All other excess emissions that are determined unavoidable may be excused from civil penalty, but not violation.

20.6 General Condition 45

WestRock's AOP contains various permit conditions which require the use of a CPMS such as a flowmeter, pressure drop meter, or secondary voltage monitor. For many of these monitoring systems, there is currently no calibration requirements in the code of federal regulations. In this permit renewal, Ecology has incorporated a requirement for yearly calibration or calibration as recommended by the manufacturer. Ecology implemented this calibration requirement to meet the sufficient monitoring requirements in 40 CFR 70.6(c)(1). Ecology believes this additional calibration requirement will help to assure compliance where a surrogate parameter is monitored.

21. DISCUSSION OF APPENDIX B – CONTINUOUS MONITORING RECOVERY REQUIREMENTS

Appendix B of the proposed draft permit contains requirements for data recovery.

1. CMS Data Recovery

No.1 of Appendix B contains CEMS data recovery requirements required by WAC 173-400. These requirements are applicable to CEMS required by an order, PSD permit, or regulation issued by Ecology and not subject to CEMS performance specifications and data recovery requirements imposed by 40 CFR Parts 60, 61, 62, 63, or 75.

2. MACT CMS Data Recovery

Prior to 2011, the WAC contained no requirements for a percentage of valid data to be recovered in a given time period. In an effort to ensure enough valid data is recorded to ensure compliance, Ecology's Industrial Section implemented a 10% maximum data loss for all CEMS required by an order, PSD permit, regulation issued by Ecology, or the CFR in permits issued as early as 1998. In later iterations, the language was updated to specify that data loss due to daily calibration, zero and span checks are not considered downtime. Ecology has the authority to implement these data recovery requirements through WAC 173-401-615 and WAC 173-401-630, which require monitoring sufficient to assure compliance with the terms and conditions of the permit.

In [2011](#), WAC 173-400-105 was updated to include data recovery requirements. WAC 173-400-105(7)(a) requires at least 95% of data to be recovered during each calendar month. WAC 173-400-105(7) states "All continuous emission monitoring systems (CEMS) required by 40 CFR Parts 60, 61, 62, 63, or 75 (all in effect on the date in WAC 173-400-025), or a permitting authority's adoption of those federal standards must meet the continuous emission monitoring systems (CEMS) performance specifications and data recovery requirements imposed by those standards". WAC 173-400-105 also states that the 95% recovery standard per calendar month is only applicable to "all CEMS required under an order, PSD permit, or regulation issued by a permitting authority and not subject to CEMS performance specifications and data recovery requirements imposed by 40 CFR Parts 60, 61, 62, 63, or 75". This requirement is discussed above and included in No.1 to Appendix B.

However, for CMS required by Part 63, Ecology must apply the data recovery requirements in 40 CFR Part 63 rather than those in WAC 173-400-105(7). The requirements for data recovery in 40 CFR Part 63 are minimal. The general requirements for the operation of CMS required by 40 CFR Part 63 are in 40 CFR 63.8(c)(4). 40 CFR 63.8(c)(4) requires that "Except for system breakdowns, out-of-control periods, repairs, maintenance periods, calibration checks, and zero (low-level) and high calibration drift adjustments, all CMS, including COMS and CEMS shall be in continuous operation..." This requirement does not ensure sufficient data recovery, and could allow for extended periods of CMS downtime due to a "breakdown". Therefore, Ecology continues to implement a 10% maximum data loss for CMS required by 40 CFR Part 63 in No.2 of this draft proposed AOP, with allowances only for calibration, zero, and span checks. Ecology has the authority to implement this data recovery requirement through 40 CFR 70.6(c)(1), which requires sufficient monitoring to assure terms and conditions of the permit.

Although a similar 95% data recovery per month standard as in WAC 173-400-105(7) could be applied to 40 CFR Part 63 using sufficiency monitoring, note that the requirements under WAC 173-400-105(7) allow for lost data that occurred only as a result of “inadequate design, operation, or maintenance, or any other reasonably preventative condition” to count towards data lost each month. Given the difficulty in proving that data loss occurred as a result of these reasons, Ecology found that sufficient monitoring could be more clearly demonstrated by allowing for a greater amount of downtime (10% vs. 5%) while applying a more conservative definition of downtime to only include calibration, zero and span checks to not count as downtime.

The incorporation of a 10% data recovery requirement in an AOP as a measure to ensure sufficient monitoring is consistent with data recovery requirements implemented by other air permitting authorities. For example, Permit [R10T5070101](#) issued by EPA Region 10 on March 1, 2016 required 90% minimum data capture for CMS in Permit Condition 5.10, citing 40 CFR 71.6(a)(3)(i)(B) and (C), 71.6(a)(3)(ii), and 71.6(c)(1), which requires sufficient monitoring to assure terms and conditions of the permit issued by federal operating programs. The same approach was taken in Permit [R10T5020101](#) issued by EPA Region 10 on May 13, 2015 in Permit Condition 5.9.

3. NSPS CMS Data Recovery

The general requirements for the operations of CMS required by 40 CFR Part 60 are in 40 CFR 60.13(e). 40 CFR 60.13(e) requires that “except for system breakdowns, repairs, calibration checks, and zero and span adjustments required under 40 CFR 60.13(d), all continuous monitoring systems shall be in continuous operation...” This does not ensure sufficient data recovery. Ecology has incorporated a 10% maximum data loss for CMS required by 40 CFR Part 60 using the same rationale applied in the condition for MACT CMS Data Recovery above.

22. DISCUSSION OF APPENDIX G, NO.1 – TIERED TESTING ALLOWANCE

Appendix G is a new section of the AOP. The tiered testing allowance in Appendix G, No.1 was previously incorporated into individual permit conditions A.1a (A.1 in the previous permit) and C.1 (B.1 in the previous permit). It previously read as follows: “the Permittee shall source test quarterly if 6 consecutive monthly source tests results are all below 75% of the emissions limitation. If any single test result exceeds 75% of the limitation, source testing shall revert to a monthly frequency until 6 consecutive monthly source test results are all below 75% of the limitation”. The tiered testing allowance has been modified to include additional options to drop down to a semiannual or annual testing frequency depending on how closely to the limit the emission unit operates.

This tiered testing allowance has newly been applied to conditions B.1 (C.1 in the previous permit) and E.2a (also E.2a in the previous permit), which previously only required quarterly testing.

The requirements for increasing or reducing monitoring frequencies have also changed. A summary of the new condition is as follows: A permittee on quarterly source test cycle must test at this frequency for one year. If all emissions are less than or equal to 50% of the limit, they may test semiannually. If they are able to test semiannually for two years with all emissions less than 25% of the limit, they may test annually. If they exceed a limit, they must source test monthly for at least three months and show compliance before they may begin testing quarterly. See Appendix G., No.1 for the complete language.

Ecology evaluated WestRock's operating history in comparison to the limits before making this change. Ecology also took into consideration the variability of the testing results. There is sufficient margin between the test results and the limit for each permit condition to which Appendix G., No.1 Applies. See the four tables below for operating history.

Ecology also notes that the requirement of quarterly or monthly testing for this facility dates back to the 1970s and 1980s. At this time, neither state nor federal rules to which WestRock was subject to specified stack-testing frequencies. Later, rules such as 40 CFR Part 63 Subpart MM and 40 CFR Part 63 Subpart DDDDD were finalized in 2001 and 2003 respectively. These federal rules require testing frequencies ranging from annually to every five years. Ecology continues to implement this tiered testing allowance in Appendix G., No.1 to allow for more frequent compliance checks compared to federal regulations for state particulate limits or federal limits in which no frequency is dictated.

Additionally, with the advent of newer rules such as 40 CFR Part 63 Subpart MM and 40 CFR Part 63 Subpart DDDDD, WestRock has become subject to more robust CAM requirements (operating limits on scrubber flow rate, pressure drop, electrostatic precipitator performance, etc.) which better ensure compliance between stack testing events. Therefore, it is reasonable to make this change to the stack testing frequency language.

TABLE 29. HISTORICAL PM TESTING DATA FOR RECOVERY FURNACE NO.4

Test Date	Test Result gr/dscf	Percent of Limit 0.044 gr/dscf
03/23/2016	0.014	31%
06/14/2016	0.009	21%
09/13/2016	0.012	26%
11/21/2016	0.013	29%
03/23/2017	0.005	11%
04/13/2017	0.013	29%
09/21/2017	0.007	17%
12/13/2017	0.002	5%
03/8/2018	0.008	19%

Test Date	Test Result gr/dscf	Percent of Limit 0.044 gr/dscf
05/1/2018	0.010	22%
07/12/2018	0.010	24%
10/8/2018	0.005	11%
03/27/2019	0.004	8%
06/11/2019	0.011	24%
08/14/2019	0.005	12%
11/21/2019	0.012	27%
03/6/2020	0.004	8%
06/23/2020	0.003	7%

TABLE 30. HISTORICAL TESTING RESULTS FOR SMELT TANK NOS. 4E & 4W

Test Date	Test Result lb/ton Black Liquor Solids	Percent of Limit 0.3 lb/ton Black Liquor Solids
03/17/2016	0.075	25%
06/16/2016	0.091	30%
09/08/2016	0.091	30%
12/21/2016	0.095	32%
03/21/2017	0.111	37%
06/06/2017	0.069	23%
07/21/2017	0.078	26%
11/07/2017	0.089	30%
03/15/2018	0.081	27%
05/09/2018	0.078	26%
09/15/2018	0.056	19%
11/16/2018	0.089	30%
03/08/2019	0.051	17%
06/10/2019	0.081	27%
09/04/2019	0.100	33%
12/14/2019	0.100	33%
02/25/2020	0.110	37%
05/31/2020	0.110	37%

TABLE 31. HISTORICAL TESTING RESULTS FOR LIME KILN NO.1

Test Date	Test Result grains/dry standard cubic foot	Percent of Limit 0.13 grains/ dry standard cubic foot
03/24/2016	0.024	19%
06/21/2016	0.035	27%

Test Date	Test Result grains/dry standard cubic foot	Percent of Limit 0.13 grains/ dry standard cubic foot
09/02/2016	0.031	24%
12/20/2016	0.031	24%
03/07/2017	0.114	88%
03/14/2017	0.039	30%
04/11/2017	0.035	27%
05/23/2017	0.024	18%
06/08/2017	0.025	19%
07/25/2017	0.029	22%
08/17/2017	0.033	25%
09/22/2017	0.039	30%
12/15/2017	0.050	39%
03/14/2018	0.037	29%
06/06/2018	0.046	36%
08/13/2018	0.040	31%
10/29/2018	0.037	29%
01/11/2019	0.048	37%
06/06/2019	0.047	36%
09/20/2019	0.031	24%
12/16/2019	0.040	31%
02/26/2020	0.029	22%
06/24/2020	0.035	27%

TABLE 32. HISTORICAL TESTING RESULTS FOR LIME KILN NO.2

Test Date	Test Result grains/dry standard cubic foot	Percent of Limit 0.13 grains/ dry standard cubic foot
03/16/2016	0.024	19%
06/17/2016	0.042	33%
09/06/2016	0.019	14%
11/22/2016	0.025	19%
03/09/2017	0.044	34%
05/25/2017	0.012	10%
08/21/2017	0.038	29%
11/08/2017	0.030	23%
03/14/2018	0.011	9%
06/05/2018	0.033	26%
09/19/2018	0.038	29%
10/25/2018	0.040	31%
02/25/2019	0.019	15%

Test Date	Test Result grains/dry standard cubic foot	Percent of Limit 0.13 grains/ dry standard cubic foot
04/22/2019	0.034	26%
09/18/2019	0.062	48%
12/05/2019	0.081	62%
12/12/2019	0.050	38%
03/18/2020	0.039	30%
04/21/2020	0.047	36%

TABLE 33. HISTORICAL TESTING RESULTS FOR POWER BOILER NO.7

Test Date	Test Result grains/dry standard cubic foot	Percent of Limit 0.05 grains/dry standard cubic foot
01/14/2016	0.003	6%
06/07/2016	0.003	6%
06/08/2016	0.002	4%
07/06/2016	0.002	4%
12/27/2016	0.002	3%
03/02/2017	0.005	10%
06/16/2017	0.002	3%
09/18/2017	0.004	8%
12/12/2017	0.003	6%
03/09/2018	0.002	4%
05/22/2018	0.005	9%
07/11/2018	0.002	4%
11/14/2018	0.003	7%
03/05/2019	0.002	4%
06/04/2019	0.008	16%
08/15/2019	0.002	3%
11/22/2019	0.005	11%
03/05/2020	0.002	4%

Ecology has also specified that should the emission unit not be in operation for 180 days, the Permittee must perform a stack test within 30 days of startup. This will help to quickly confirm the emission unit is operating properly after a period of downtime.

Results of any particulate stack test will be used to evaluate compliance against all particulate limits and may be used to increase stack testing. For example, an emission unit is subject to two particulate matter limits. One limit requires annual testing, and the other limit is subject to the testing frequencies in Appendix G., No.1. The emission unit is currently testing on an annual cycle for the limit to which Appendix G., No.1 applies

based on previous performance. If the results from a particulate stack test that is only required annually is performed and it is greater than 75% of a limit for which Appendix G., No.1 is applicable, the permittee must test particulate matter more frequently for the limit to which Appendix G., No.1 is applicable.

However, Ecology acknowledges that for certain emissions tests, the Permittee may be required to operate in a “worst-case” posture. Ecology has included language in Appendix G., No.1 which will allow for the Permittee to request that testing frequency not increase based on results from tests to which Appendix G., No.1 does not apply. Ecology must approve such a request.

23. STREAMLINING

Streamlining is not applicable to the WestRock Tacoma Mill because no streamlining has been done or proposed.

24. PERMIT SHIELD

The WestRock Tacoma Mill requested that a permit shield be granted for the renewal permit issued to the mill.

This proposed Title V Air Operating Permit contains permit shield language pursuant to WAC 173-401-640(1) and 40 CFR Part 70.6(f).

25. INSIGNIFICANT EMISSION UNITS

The facility-wide general requirements apply to the whole facility, including insignificant emission units and activities (IEUs), as required by the operating permit rule. The rule states, however, that IEUs are not subject to monitoring requirements unless the generally applicable requirements in the State Implementation Plan (SIP) impose them. [WAC 173-401-530(2)(c)] The Washington SIP does not impose any specific monitoring-related requirements for the facility-wide requirements for IEUs at this source. The permit, therefore, does not require any testing, monitoring, reporting, or recordkeeping for insignificant emission units or activities.

The table below summarizes the emission units identified by the Permittee in their Title V renewal application as meeting the criteria for insignificant emission units as defined by WAC 173-401-530. Ecology concurs that the units identified below meet the insignificant emission unit criteria.

TABLE 34. INSIGNIFICANT EMISSION UNITS

Inventory No.	Emission Unit Description	Criteria
1	Biomass Pile	WAC 173-401-530(1)(d)

Inventory No.	Emission Unit Description	Criteria
2	Sanitary Sewer Main Pump Station	WAC 173-401-532(120)
3	Sump Pump, Surface Water	WAC 173-401-532(120)
4	Power Boiler No. 7 Precip. Ash Pile	WAC 173-401-530(1)(d)
5	Power Boiler No. 7 Grate Ash Pile	WAC 173-401-530(1)(d)
6	Steam Relief Valve	WAC 173-401-532(87)
7	Slaker Grits	WAC 173-401-530(1)(d)
8	Oil Tank Vent	WAC 173-401-533(2)(t)
9	Oil Tank Vent	WAC 173-401-533(2)(t)
10	Oil Tank Vent	WAC 173-401-533(2)(t)
11	Fire Water Pump House Diesel Engine Exhaust	WAC 173-401-532(52)
11A	Building for Item 11— Vent in Door	WAC 173-401-532(9)
11B	Diesel Fuel Tank Vent, <2000-Gallon Tank	WAC 173-401-533(c)
12	Fire Water Tank Vent	WAC 173-401-532(52)
13	Green Liquor Storage Tank Vent	WAC 173-401-532(93)
14	Oil Pumphouse Steam Relief Vent	WAC 173-401-532(87)
15	Lime Mud Dust Pile	WAC 173-401-532(d)
16	Slaker Grits	WAC 173-401-532(140)
17	Lime Mud Dust Pile	WAC 173-401-530(1)(d)
18	Lime Mud Dust Pile	WAC 173-401-530(1)(d)
19	Dirt Pile	WAC 173-401-530(1)(d)
20	Lime Mud on Ground	WAC 173-401-530(1)(d)
21	Fresh Lime Unloading Station	WAC 173-401-530(1)(d)
22	Old Slaker South	Abandoned
23	Old Slaker North	Abandoned
24	Lime Silo	Abandoned
25	Dust Collection Vent	Abandoned
26	Milk of Lime Tank Vent	Abandoned
26A	Milk of Lime Tank Vent	Abandoned
27	NCG Bypass When System Down	Normally Closed

Inventory No.	Emission Unit Description	Criteria
28	Lime Kiln Scrubber Liquid Clarifier South	WAC 173-401-532(103)
29	Clarifier Center	WAC 173-401-532(103)
30	Clarifier North	WAC 173-401-532(103)
31	West Green Liquor Clarifier	WAC 173-401-532(103)
32	East Green Liquor Clarifier	WAC 173-401-532(103)
33	Green Liquor Tank	WAC 173-401-532(103)
34	Bathroom Vent	WAC 173-401-532(48)
35	Lime Mud Tank	WAC 173-401-532(101)
36	Mud Mix Tank	WAC 173-401-532(101)
37	Sulfamic Acid Tank	WAC 173-401-533(2)(s)
38	Sewer Sump No. 3	WAC 173-401-532(120)
39	Roof Vents, Kiln Control Room	WAC 173-401-532(9)
45	Core Washer Discharge	WAC 173-401-532(104)
46	Air to MCC Room	WAC 173-401-532(46)
47	50% Caustic Soda Tank	WAC 173-401-533(2)(s)
48	Caustic Bldg. Room Vent	WAC 173-401-532(9)
49	Caustic Room Vent	WAC 173-401-532(9)
50	Lime Kiln Operator's Air Makeup for Control Room	WAC 173-401-532(9)
51	Sewer Sump	WAC 173-401-532(120)
52	Air Makeup for Oil Pumphouse	WAC 173-401-532(9)
53	Vents on Wall of Oil Pumphouse	WAC 173-401-532(9)
54	Lime Kiln No. 2 Auxiliary Drive Motor	WAC 173-401-533(2)(f)
55	Lime Kiln No. 1 Auxiliary Drive Motor	WAC 173-401-533(2)(f)
58	Caustic Sewer Main Discharge	WAC 173-401-532(120)
59	Caustic Sump Ground Level	WAC 173-401-532(120)
60	White Liquor Tank	WAC 173-401-532(103)
61	Spill Surge Tank	Abandoned
62	Clarifier No. 6 Caustic Sewer	WAC 173-401-532(103)
63	Green Liquor Surge Tank	WAC 173-401-532(103)

Inventory No.	Emission Unit Description	Criteria
64	Green Liquor, Tank No. 8	WAC 173-401-532(103)
65	White Liquor Tank	WAC 173-401-532(103)
66	Polymer Makeup Tank	WAC 173-401-533(2)(s)
67	Lime Kiln No. 1 Mud Filter Vacuum Pump Discharge	WAC 173-401-532(102)
68	Lime Kiln No. 1 Filter Filtrate Tank	WAC 173-401-532(99)
69	Acid Cleaning Tank, Lime Kiln No. 1 Filter	WAC 173-401-533(2)(s)
70	Recausticizing Bldg. Opening	WAC 173-401-532(9)
71	South Lime Mud Tank	WAC 173-401-532(99)
72	North Lime Mud Tank	WAC 173-401-532(99)
73	East Lime Mud Tank	WAC 173-401-532(99)
74	Cooling Water Tank, Open Top	WAC 173-401-532(96)
75	Cooling Water Tank, Open Top	WAC 173-401-532(96)
76	Mud Filter, Lime Kiln No. 2, No Hood	WAC 173-401-532(102)
77	Lime Kiln No. 2 Mud Filter Room Vents On Side of Bldg.	WAC 173-401-532(91)
78	Lime Kiln No. 2 Scrubber Liquid Tank	WAC 173-401-532(103)
79	Lime Kiln No. 2 Filter Vacuum Pump Discharge	WAC 173-401-532(102)
80	Sewer Sump	WAC 173-401-532(117)
81	Water Sump	WAC 173-401-532(96)
82	Air Supply for Lime Kiln No. 2 MCC	WAC 173-401-532(9)
83	MCC Room Vent	WAC 173-401-532(9)
84	Lab Lime Grinding Room Vent	WAC 173-401-532(51)
85	Lime Mud, Pile (Kiln No. 1) Storage	WAC 173-401-530(1)(d)
86	Lime Mud Storage Pile (on Concrete)	WAC 173-401-530(1)(d)
87	Sewer Sump, Ground Level	WAC 173-401-532(117)
88	Lime Kiln No. 1 Scrubber Recirc. Tank (Peabody Sump)	WAC 173-401-532(103)
89	MCC Room Vent R7E	WAC 173-401-532(9)
90	Abandoned Stack	Abandoned
91	Old Lime Kiln No. 1 Mud Filter (Spare)	WAC 173-401-532(102)
92	New Lime Kiln No. 1 Mud Filter Vents (2)	WAC 173-401-532(102)

Inventory No.	Emission Unit Description	Criteria
93	Dregs Washer	WAC 173-401-532(104)
94	Sewer Sump, Open	WAC 173-401-532(117)
95	NCG Line Rupture Disk	WAC 173-401-532(87)
96	Vent for Old Lime Kiln No. 1 Mud Filter Vacuum Pump	WAC 173-401-532(102)
97	Air Supply to (Fan) MCC	WAC 173-401-532(9)
98	Vent for MCC Room	WAC 173-401-532(9)
98A	Vent for Lime Kiln No. 1 Centrifugal Mud Dryers (Not Operational)	Abandoned
99	Roof Vents	WAC 173-401-532(9)
100	NCG Line Rupture Disk	WAC 173-401-532(87)
100A	Dregs Mixer Tank	WAC 173-401-532(104)
100B	MCC Above Lime Kiln Control Room (East)	WAC 173-401-532(9)
100C	MCC Above Lime Kiln Control Room (West)	WAC 173-401-532(9)
100D	Lime Kiln No. 2 Hot Line Belt	WAC 173-401-532(105)
100E	Lime Kiln No. 1 Hot Lime Belt	WAC 173-401-532(105)
101	Air Makeup for MCC "R7" Room	WAC 173-401-532(9)
102	Boil Out Tank, Nos. 1 and 2 Line Evaporators.	WAC 173-401-533(2)(s)
105	Abandoned NCG Stack	Abandoned
106	Evap. Bldg. Access Door	WAC 173-401-532(9)
107	Evap. Bldg. Vents	WAC 173-401-532(9)
108	Multiple Openings East Side of 1 and 2 Evap. Bldg., Power Boiler Bldg.	WAC 173-401-532(9)
109	Multiple Openings West Side of 1 and 2 Evap. Power Boiler No. 6 Bldg.	WAC 173-401-532(9)
110	NCG Rupture Disk	WAC 173-401-532(87)
112	Power Boiler No. 1 Shut Down	Abandoned
113	HF Power Boiler No. 2 Shut Down	Abandoned
114	R5E MCC, Air Makeup	WAC 173-401-532(9)
115	Evap. Soap Skimmer Tank	WAC 173-401-532(4)
116	Brine Dissolving Tank	WAC 173-401-533(2)(s)

Inventory No.	Emission Unit Description	Criteria
117	Brine Measuring Tank	WAC 173-401-533(2)(s)
118	Experimental Cooking Digester	WAC 173-401-533(3)(a)
119	MCC R5B Vent	WAC 173-401-532(9)
123	H ₂ SO ₄ Tank	WAC 173-401-533(2)(s)
124	NaOH Tank	WAC 173-401-533(2)(s)
125	Power Boiler No. 3	Abandoned
126	Power Boiler No. 4	Abandoned
127	Power Boiler No. 5	Abandoned
128	Bailey Air Outlet (Control for Power Boiler Nos. 6 and 7)	WAC 173-401-532(9)
129	Sodium Sulfite Tank No. 5	WAC 173-401-533(2)(s)
130	Sodium Sulfite Tank No. 6	WAC 173-401-533(2)(s)
131	Auxiliary Power System, Exhaust Vent (Gas Engine)	WAC 173-401-533(2)(f)
132	Sodium Sulfite Mix Tank	WAC 173-401-533(2)(s)
133	Caustic Tank West	WAC 173-401-533(2)(s)
134	Caustic Tank East	WAC 173-401-533(2)(s)
135	NALCO 720 St Installed Tanks	WAC 173-401-532(4)
136	NALCO 182 Installed Tanks	WAC 173-401-532(4)
137	Used Oil Tank Portable	WAC 173-401-532(42)
138	Demineralized Water Tank	WAC 173-401-532(96)
139	H ₂ SO ₄ Tank West	WAC 173-401-533(2)(s)
140	H ₂ SO ₄ Tank East	WAC 173-401-533(2)(s)
141	Boiler Water Condensate Flash Vent	WAC 173-401-532(87)
142	65 Deaeration Tank Vents	WAC 173-401-532(87)
143	65 Vents	WAC 173-401-532(87)
144	Old Power Boiler Nos. 3, 4, 5 Stack, 425 Steam Relief	WAC 173-401-532(87)
145	Steam Flash Tank Vent	WAC 173-401-532(87)
146	5 Deaeration Tank Vent	WAC 173-401-532(87)
147	Steam Vent Roof	WAC 173-401-532(87)
148	Ash Pile Bunker	WAC 173-401-530(d)

Inventory No.	Emission Unit Description	Criteria
149	Opening to Bldg., Ground Level	WAC 173-401-532(9)
150	Bathroom Vent	WAC 173-401-532(48)
151	Room Vent	WAC 173-401-532(9)
152	Boiler Water Test Station Lab	WAC 173-401-532(51)
153	Office Vent, Window	WAC 173-401-532(9)
154	Office Vent, Window	WAC 173-401-532(9)
155	Office Vent, Window	WAC 173-401-532(9)
156	Old Control Room No. 6	WAC 173-401-532(9)
157	Old Vents	WAC 173-401-532(9)
158	Steam Relief Vent	WAC 173-401-532(87)
159	Steam Relief Vent	WAC 173-401-532(87)
160	Steam Relief Vent	WAC 173-401-532(87)
161	Steam Relief Vent	WAC 173-401-532(87)
162	Bldg. Roof Vent	WAC 173-401-532(9)
163	Steam Relief Vent	WAC 173-401-532(87)
164	Steam Relief Vent	WAC 173-401-532(87)
165	Steam Relief Vent	WAC 173-401-532(87)
166	Door, Opening to Bldg.	WAC 173-401-532(9)
167	Steam Relief Vents, Old Shut Down Power Boiler Nos. 1 through 5	WAC 173-401-532(87)
168	Bldg. Roof Vents	WAC 173-401-532(9)
169	Steam Vent Relief (Feed to Evaps)	WAC 173-401-532(87)
170	Old Evap. Control Room Doors (2)	WAC 173-401-532(9)
171	Power Boiler No. 7 Precip., Air Heater, Multiclone Ash Pile (Wetted)	WAC 173-401-530(1)(d)
172	Steam Relief Valve Stack	WAC 173-401-532(87)
173	Power Boiler No. 7 Rapper Room Vent Fan	WAC 173-401-532(9)
174	Power Boiler No. 7 Precip. Rapper Room Air Fan	WAC 173-401-532(9)
175	Power Boiler No. 7 Rapper Room Door	WAC 173-401-532(9)

Inventory No.	Emission Unit Description	Criteria
176	Power Boiler No. 7 Precip Rapper Room Vent	WAC 173-401-532(9)
179	Steam Relief Valve, Power Boiler No. 7	WAC 173-401-532(87)
179A	Power Boiler No. 7 Steam Relief Valve on Roof	WAC 173-401-532(87)
180	Power Boiler No. 7 Bldg. Vents, East Side	WAC 173-401-532(9)
181	Relief Valve Power Boiler No. 7 Forced Turbine Steam Relief	WAC 173-401-532(87)
182	Power Boiler No. 7 Grate Ash Pile Discharge to Ground	WAC 173-401-530(1)(d)
183	Liquid Sulfur Tank, Microsol	WAC 173-401-533(2)(s)
184	Air Inlet for MCC	Inlet
185	No. 7 DB Pent House Room Vents	WAC 173-401-532(9)
186	Bldg. Vent	WAC 173-401-532(9)
187	Return H.F. Belt, Power Boiler No. 7	WAC 173-401-530(d)
188	Restroom Vent, Power Boiler No. 7	WAC 173-401-532(48)
189	Restroom Vent, Power Boiler No. 7	WAC 173-401-532(48)
190	Restroom Power Boiler No. 7, Floor 1	WAC 173-401-532(48)
191	Vent from Power Boiler No. 7 CEM	WAC 173-401-532(8)
192	Grate Ash Trough Power Boiler No. 7	WAC 173-401-530(1)(d)
193	Power Boiler No. 7 Blow Steam Blowdown	WAC 173-401-532(87)
195	Turbine Oil Tank	WAC 173-401-532(3)
196	Used Oil Tank	WAC 173-401-532(3)
197	Steam Relief to Ground	WAC 173-401-532(87)
198	MCC Door Vent	WAC 173-401-532(9)
201	3CE Spout Water Collection Tank	WAC 173-401-532(96)
202	3CE Storage Locker Room, Wall Vent	WAC 173-401-532(9)
203	3CE Restroom Window Vent	WAC 173-401-532(48)
204	3CE Chemical Ash Tank (3CE Floor 3)	WAC 173-401-532(6)
205	Salt Cake Feed Line	Abandoned
206	Salt Cake Cyclone Tank Vent	Abandoned
207	Salt Cake Storage Day Tank	Abandoned
209	Salt Cake Mix Tank	WAC 173-401-532(91)

Inventory No.	Emission Unit Description	Criteria
211	3CE Spout Cooling Water Head Tank	WAC 173-401-532(96)
212	3CE Main Steam Relief Exhaust Muffler	WAC 173-401-532(87)
213	3CE Steam Relief Valves	WAC 173-401-532(87)
215	3CE Air Power Rappers, Precip Cell 1 and 2 Mill Air	WAC 173-401-532(9)
216	3CE Fresh Air Makeup to Rapper Room	WAC 173-401-532(9)
217	3CE Steam Turbine for Third Cell	WAC 173-401-532(87)
219	3CE Cell 3 Rapper Room	WAC 173-401-532(9)
220	3CE Cell 3 Air Blower for Electric Section	WAC 173-401-532(9)
223	Abandoned Salt Cake Suction	Abandoned
227	Diesel Electric Emergency Generator	WAC 173-401-533(2)(f)
228	CE No. 4 Bldg. Window Vent, Ground, About 6th & 9th floor	WAC 173-401-532(9)
229	4CE Bldg. Vent	WAC 173-401-532(9)
230	4CE Blower for Recirculation Air of MCC	WAC 173-401-532(9)
231	4CE Blowdown Tank	WAC 173-401-532(96)
232	4CE Forced Draft Fan Steam	WAC 173-401-532(87)
233	4CE Salt Cake Black Liquor Mix Tank Vents to West Smelt Vent	WAC 173-401-532(91)
235	Micro Sulfur Liquid, Tank Vent	WAC 173-401-532(4)
237	4CE, Floor 2 MCC for Precips.	WAC 173-401-532(9)
238	4CE Steam Blowdown Box Floor 3	WAC 173-401-532(96)
239	4CE NALCO Tote Bin 328 Floor 3	WAC 173-401-532(42)
240	4CE Salt Cake Bin plus Feed System	WAC 173-401-532(91)
241	4CE Steam	WAC 173-401-532(89)
242	4CE Plus 3CE Air Makeup for Control Room	WAC 173-401-532(9)
243	Salt Mix Tank, 4CE	WAC 173-401-532(91)
245	4CE Laminar Air Heater (LAH) Air Inlet (two)	Inlet
246	4CE Smelt Tank Cooling Water Tank	WAC 173-401-532(96)
247	4CE Air Seal Fan to Prec. Isolation Gate	Inlet
248	4CE MCC Room Air Makeup System	WAC 173-401-532(9)

Inventory No.	Emission Unit Description	Criteria
249	4CE Room, Open Door Ventilation	WAC 173-401-532(9)
250	3CE Scrubber Blowdown to Process Sewer	WAC 173-401-532(96)
251	4CE ID Fan Steam Turbine Steam Leak	WAC 173-401-532(89)
252	4CE Elevator Air Makeup Fan	WAC 173-401-532(9)
253	3CE Scrubber Turbine Fan Steam Leak	WAC 173-401-532(89)
254A	CE No. 4 Steam Inlet Vent, Not Blowing	Inlet
255A	CE No. 3 CEM (H ₂ S) Vent	WAC 173-401-532(8)
256	4CE Precip Rapper Room 4th Floor	WAC 173-401-532(9)
257	4CE CEM (TR 5) Exhaust	WAC 173-401-532(8)
258	H ₂ SO ₄ for pH Control of Mill Effluent	WAC 173-401-533(2)(s)
261	Evp. Line No. 4 Condensate (Boilout) Tank	WAC 173-401-532(96)
262	CE No. 4 Precip. Emergency Salt Cake Dump Tube	WAC 173-401-532(91)
264	CE No. 4 CEM Exhaust	WAC 173-401-532(8)
267	Microsol Tank	WAC 173-401-532(95)
270	Foul Condensate 2" Pipe Discharge to Trench Sewer	WAC 173-401-532(120)
272	Dewatered Sludge Pile	WAC 173-401-530(1)(d)
273	Primary Clarifier	WAC 173-401-530(1)(d)
275	Primary Clarifier Sulfuric Acid Tank	WAC 173-401-533(2)(s)
276	Mix Tank, Primary Sludge plus Secondary Biomass	WAC 173-401-532(114)
277	Conditioning Tank, Feeds Screw Presses	WAC 173-401-532(114)
278	West Screw Press (FKC) Discharge	WAC 173-401-532(114)
279	East Screw Press (FKC) Discharge	WAC 173-401-532(114)
280	West Rotary Sludge Thickener for Primary Sludge	WAC 173-401-532(114)
281	East Rotary Sludge Thickener	WAC 173-401-532(114)
282	Primary Effluent Transfer Bldg. Vent Fan	WAC 173-401-532(9)
283	Primary Effluent Transfer Bldg. Vents	WAC 173-401-532(9)
284	Primary Effluent H ₂ SO ₄ Tank	WAC 173-401-533(2)(s)
285	DWB (Dewater Bldg.) Vent Fan	WAC 173-401-532(9)
286	DWB Polymer Tanks	WAC 173-401-533(2)(s)

Inventory No.	Emission Unit Description	Criteria
287	DWB FKC Transfer Belt Open	WAC 173-401-532(114)
288	DWB Control Room Vent Fan (Positive Air)	WAC 173-401-532(9)
289	DWB Restroom Vent Fan	WAC 173-401-532(48)
290	DWB Vacuum Pump Receiver Tank	WAC 173-401-532(114)
278A	DWB FKC Head Box	WAC 173-401-532(114)
279A	DWB FKC Head Box to Screw Press	WAC 173-401-532(114)
291	DWB Vent Fan for Head Box FKC East and West	WAC 173-401-532(114)
292	DWB Opening for Vent	WAC 173-401-532(9)
293	Biomass Oversize Reject Pile Mechanism	WAC 173-401-530(1)(d)
294	HF Metal Reject System	N/A.
295	HF plus Sludge Covered Belt	WAC 173-401-532(114)
296	HF Belt, Open, Weather Covering	WAC 173-401-530(1)(d)
297	DWB Vent	WAC 173-401-532(9)
298	DWB Hydraulic Oil Tank	WAC 173-401-532(3)
299	DWB Fines Day Tank Vent	WAC 173-401-532(6)
300	Diesel Tank	WAC 173-401-533(2)(t)
301	PET (Primary Effluent Transfer) Diesel Electric Backup Exhaust	WAC 173-401-533(2)(f)
302	Diesel Electric Bldg. Vents	WAC 173-401-532(9)
303	DWB Second Floor Bldg. Vents	WAC 173-401-532(9)
304	DWB MCC Bldg. Vent	WAC 173-401-532(9)
305	DWB Fines Cyclone (Feeds HF Belt)	WAC 173-401-532(112)
306	DWB FKC Steam Relief Valve	WAC 173-401-532(87)
307	HF Reclaimer Control Room Vent	WAC 173-401-532(9)
308	HF Pile	WAC 173-401-530(1)(d)
309	HF Truck Lift Control Room, West Wall	WAC 173-401-532(9)
310	Air Makeup for MCC	WAC 173-401-532(9)
313	Abandoned Screens	Abandoned
315	Air Make up for MCC	WAC 173-401-532(9)

Inventory No.	Emission Unit Description	Criteria
316	Air Makeup for Pulp Mill MCC East of Process Lab	WAC 173-401-532(9)
317	No. 3 Washer Line Foam Tank Vent	WAC 173-401-532(93)
319	Pulp Machine (PM) Weir Shower Head Box Vents	Abandoned
320	West Pulp Machine Wire Pickup Vent	WAC 173-401-532(106)
321	Pulp Machine Vent over Weir and Couch Areas	WAC 173-401-532(106)
322	PM Vent over Machine No. 2 2nd Press Area	WAC 173-401-532(106)
323	PM Room Vent	WAC 173-401-532(9)
324	PM Head Box's Vents	WAC 173-401-532(106)
RV	PM Ceiling Roof Vent	WAC 173-401-532(9)
325	Air Makeup for Old Bleach Plant Control Room	WAC 173-401-532(9)
326	PM No. 2 Press Area and Pre-Dry Hood Vents	WAC 173-401-532(107)
327	PM No. 1 Press Area and Pre-Dry Hood Vents	WAC 173-401-532(107)
328	Washline No. 4 Feed Box, External Air Pickup	Inlet
329	Washer Line No. 4 Hood Vent (Closed)	Normally Closed
330	PM No. 2 Dryer Exhaust Vent	WAC 173-401-532(107)
331	Washer Line No. 4, Normally Closed, Fan Discharge	Normally Closed
332	Washer Line No. 4 Discharge Area, External Air Pickup	Inlet
333	PM Heat Exchanger for Ceiling Moisture Ventilation over Layby Area	WAC 173-401-532(107)
334	PM No. 1 Heat Exchanger	WAC 173-401-532(107)
335	PM No. 1 Dryer Exhaust Vent	WAC 173-401-532(107)
336	PM Heat Exchanger	WAC 173-401-532(107)
337-449	Unused Numbers	N.A.
450	Weak Black Liquor No. 12 Storage Tank	WAC 173-401-532(93)
451	Weak Black Liquor No. 11 Storage Tank	WAC 173-401-532(93)
452	Weak Black Liquor No. 10 Storage Tank	WAC 173-401-532(93)
453	Weak Black Liquor No. 9 Storage Tank	WAC 173-401-532(93)
454	Oxidized Weak Black Liquor No. 8 Storage Tank	WAC 173-401-532(93)
455	Warm Water Tank	WAC 173-401-532(96)

Inventory No.	Emission Unit Description	Criteria
456	High-Density No. 12 Tank Stock Storage	WAC 173-401-532(98)
457	White Water Overflow to Sewer	WAC 173-401-532(94)
458	HD No. 1 (High Density) Stock Storage	WAC 173-401-532(98)
461	Hot Water Tank	WAC 173-401-532(96)
462	White Liquor no. 2 Tank	WAC 173-401-532(103)
463	White Liquor No. 1 Tank	WAC 173-401-532(103)
464	MCC Room Vent	WAC 173-401-532(9)
465	Batch Dig Liq Heater Vent Stack	Abandoned
466	Batch Digester (BD) Steam Relief	WAC 173-401-532(87)
467	Fresh Air Makeup for Electric & Instrument Shop & Kamy Control Room	WAC 173-401-532(9)
468	Batch Dig. Bldg. Wall Windows that can Open	WAC 173-401-532(9)
469	PM Vacuum Pump Exhaust	WAC 173-401-532(107)
470	PM Vacuum Pump Exhaust	WAC 173-401-532(107)
471	PM Nos. 1 and 2 Wire	WAC 173-401-532(106)
472	PM Restroom Vent Fan	WAC 173-401-532(48)
473	PM Grader Room Vents	WAC 173-401-532(9)
474	PM Oil Tanks	WAC 173-401-533(2)(t)
475	PM Used Oil Pickup Tray and Used Oil Drum	WAC 173-401-532(42)
476	PM MCC 440 Volts	WAC 173-401-532(9)
477	PM Nos. 1 and 2 Air Makeup Total of Four	WAC 173-401-532(106)
478	Steam Chest Leak By	WAC 173-401-532(89)
479	PM Wall Window Vent East	WAC 173-401-532(9)
480	PM Computer Room Air Cond.	WAC 173-401-532(46)
481	PM Operators Room Air Makeup From Roof of Control Room	WAC 173-401-532(9)
482	2-Inch Vent Pipe for Bleach Plant Acid and Alk. Sewer	WAC 173-401-532(120)
483	Paper Stock Head Box Tank	WAC 173-401-532(106)
484	Old Control Room, 2 and 3 Washers	WAC 173-401-532(9)

Inventory No.	Emission Unit Description	Criteria
473A	PM Vent Fan	WAC 173-401-532(107)
485	Cowan Screen No. 3	WAC 173-401-532(98)
486	Cowan Screen No. 4	WAC 173-401-532(98)
487	Non-operative Screen	WAC 173-401-532(98)
488	Cowan Screen No. 8	WAC 173-401-532(98)
489	Cowan Screen No. 9	WAC 173-401-532(98)
490	Cowan Screen No. 10	WAC 173-401-532(98)
491	Abandoned Screens	Abandoned
492	Weak Black Liquor 1 Filter with Vent	WAC 173-401-532(93)
493	See Number 492— 2 Filter	WAC 173-401-532(93)
494	See Number 492— 3 Filter	WAC 173-401-532(93)
495	Floor Drain to Dump Tank	WAC 173-401-532(120)
496	Floor Drain to Spill Tank	WAC 173-401-532(120)
497	Floor Drain to Blend Chest	WAC 173-401-532(120)
499	Air Makeup for Old Bleach Plant Control Room	Inlet
500	Used Oil Tank	WAC 173-401-533(2)(t)
501	Industrial Oil Tanks	WAC 173-401-533(2)(t)
502	Screw for Pulp Off 4th Stage to Blend Chest	WAC 173-401-532(98)
504	Hydrosieve for Reject from Ref Reject Belt	WAC 173-401-532(94)
505	Defoamer Tank on Top of No. 2 Hd	WAC 173-401-532(4)
516	White Liquor Storage Tank for Batch Dig.	WAC 173-401-532(103)
519	Batch Digester Restroom Vent	WAC 173-401-532(48)
520	Batch Digester Control Room Air Makeup	WAC 173-401-532(9)
521	Kamyr No. 1 Chip Cyclone	WAC 173-401-532(92)
522	Kamyr No. 2 Chip Cyclone	WAC 173-401-532(92)
523	Washer Line No. 1 Foam Tank	WAC 173-401-532(93)
526	NCG Vaporsphere, with Vent in Case of Rupture	WAC 173-401-532(87)
532	Washer Line No. 3 Foam Tank	WAC 173-401-532(93)
533	Wash Line No. 2 Filtrate Tanks (three)	WAC 173-401-532(93)

Inventory No.	Emission Unit Description	Criteria
534	High-Density (HD) No. 3 Stock Storage	WAC 173-401-532(98)
535	HD No. 4 Stock Storage	WAC 173-401-532(98)
536	HD No. 5 Stock Storage	WAC 173-401-532(98)
537	Washer Line No. 4 Brown Stock Washer Filtrate Tank Vent	WAC 173-401-532(93)
538	Defoamer Tank	WAC 173-401-532(93)
539	HD No. 5 Sump Tank	WAC 173-401-532(98)
540	8% Caustic Storage Tanks	WAC 173-401-533(2)(s)
541	8% Caustic Storage Tank	WAC 173-401-533(2)(s)
542	50% Caustic Tank	WAC 173-401-533(2)(s)
543	Pitch Dispersant Tank	WAC 173-401-533(2)(s)
544	Defoamer Tank SW	WAC 173-401-533(2)(s)
545	Defoamer Tank NW	WAC 173-401-533(2)(s)
546	Defoamer Tank N	WAC 173-401-533(2)(s)
547	Defoamer Tank Center	WAC 173-401-533(2)(s)
548	Defoamer Tank S	WAC 173-401-533(2)(s)
549	Hydrogen Peroxide Tank	WAC 173-401-532(100)
553	Kamyr Nitric Acid Makeup Tank	WAC 173-401-533(2)(s)
554	Kamyr No. 2 Chip Bin Vents	WAC 173-401-532(92)
555	Kamyr No. 2 Chip Bin Wall Vents	WAC 173-401-532(92)
556	Kamyr No. 1 Chip Bin	WAC 173-401-532(92)
557	Roof Vents	WAC 173-401-532(9)
557A	Kamyr No. 1 Chip Bin Wall Vent (WV)	WAC 173-401-532(92)
558	Steam Vent for Batch Digester	WAC 173-401-532(87)
559	Steam Relief Valves	WAC 173-401-532(87)
560	Restroom, Kamyr Door Vent	WAC 173-401-532(48)
561	Kamyr: White Liq. Calibration Tank	WAC 173-401-532(103)
562	Air Makeup to Kamyr Control Room	Inlet
563	Kamyr Steam Vessel Emergency Relief Stack	WAC 173-401-532(87)
564	Single Air Makeup for Two Kamyr MCC Rooms	Inlet

Inventory No.	Emission Unit Description	Criteria
565	Kamyr Sump, Ground Level	WAC 173-401-532(120)
566	Kamyr Condensate from Heater	WAC 173-401-532(96)
568	Machine Chest (Stock from HD No. 3 Pulp Mach. Room)	WAC 173-401-532(98)
569	Refined Rejects Tank	WAC 173-401-532(98)
570	Unrefined Rejects Tank	WAC 173-401-532(98)
571	Washer Line No. 1 Filtrate Tanks	WAC 173-401-532(93)
572	Washer Line No. 3 Filtrate Tanks	WAC 173-401-532(93)
573	BSW Knot Tank	WAC 173-401-532(93)
574	Line Tile No. 1 Chest (with Decker Chest)	WAC 173-401-532(98)
575	MCC Black Clawson Paper Screens Floor	WAC 173-401-532(9)
576	Hydrosieve Effluent Tank	WAC 173-401-532(94)
577	Reject Dump Chest	WAC 173-401-532(94)
578	White Water Chest	WAC 173-401-532(94)
579	Secondary Knotter Accept Tank	WAC 173-401-532(93)
581	Hydrosieve Effluent Tank	WAC 173-401-532(94)
582	Sample Blow Pot on the Side of Each Batch Digester	WAC 173-401-532(51)
583	Sample Blow Pot on the Side of Blow Tank No. 1	WAC 173-401-532(51)
584	Chip Hopper Above Batch Digesters	WAC 173-401-532(92)
585	Sample Blow Pot for Kamyr Nos. 1 and 2	WAC 173-401-532(51)
586	Weak Black Liquor Filter Vent	WAC 173-401-532(93)
588	Hot Water Tank Vent	WAC 173-401-532(96)
591	Batch Digester Chip Bin Belt	WAC 173-401-530(1)(d)
592	Air Intake for Batch Digester Control Room	Inlet
593	Bleach Plant (BP) Restroom	WAC 173-401-532(48)
594	BP Lab Hood Vent	WAC 173-401-532(51)
595	Air Makeup for BP Control Room	Inlet
597	BSW No. 4 Tertiary Screen Feed Tank (N) and Tertiary Rejects (S) Tank	WAC 173-401-532(93)
598	BSW No. 4 Primary Screen Feed Tank	WAC 173-401-532(93)

Inventory No.	Emission Unit Description	Criteria
599 or 537	BSW No. 4 Filtrate Tank	WAC 173-401-532(93)
600	HD No. 6 Unbleached Pulp to BP	WAC 173-401-532(98)
601	No. D Bleached Pulp from Bleach Plant No. 7	WAC 173-401-532(98)
609	Kemi Nords ClO ₂ Generator	WAC 173-401-532(87)
610	BSW No. 4 Roof Vent, Fans	WAC 173-401-532(9)
611	BP Roof Vents, Fans	WAC 173-401-532(9)
614	MCC Door Vents BSW No. 4 Floor Level	WAC 173-401-532(9)
615	BP and BSW No. 4 MCC	WAC 173-401-532(9)
634	Chlorate Tanks (Two)	WAC 173-401-533(2)(s)
635	(ClO ₂) H ₂ SO ₄ Tank Vent	WAC 173-401-533(2)(s)
636	100% Methanol Tank	WAC 173-401-530(1)(a)
639	50% Caustic Storage Tanks	WAC 173-401-533(2)(s)
642	ClO ₂ Keminord Bld. 4th Floor Vent Fans	WAC 173-401-532(9)
643	Air Makeup for Keminord MCC Ground Level	Inlet
645	Air Compressor for Cl ₂ Car Air Pad	Inlet
646	SO ₂ Storage Tank	WAC 173-401-533(2)(s)
648	PM No. 13 Wire Vacuum Pump Discharge Stock	WAC 173-401-532(106)
649	PM No. 13 Stock Chest	WAC 173-401-532(98)
650	PM No. 13 Oliver Seal Pit	WAC 173-401-532(106)
651,652	Conc. Alum. Tank East/West	WAC 173-401-533(2)(s)
653,654	Wet Strength Tank East/West	WAC 173-401-533(2)(s)
655	PM No. 13 Broke Chest	WAC 173-401-532(98)
656	TiO ₂ Storage Tank PM	WAC 173-401-533(2)(s)
657	Thick TiO ₂ Tank	WAC 173-401-533(2)(s)
658	Conc H ₂ SO ₄ Storage Tank	WAC 173-401-533(2)(s)
659	Restroom Vent in Ceiling	WAC 173-401-532(48)
660	Primary White Water Chest	WAC 173-401-532(94)
661	Calgon Hydraid Open Top Makeup Tank	WAC 173-401-533(2)(s)
662	Hercules Microform Makeup Tank	WAC 173-401-533(2)(s)

Inventory No.	Emission Unit Description	Criteria
663	PM No. 2 Secondary Raw Stock Chest	WAC 173-401-532(94)
664	Recycle Stock Chest	WAC 173-401-532(98)
665	PM No. 13 Raw Stock Chest	WAC 173-401-532(98)
666	PM No. 13 Primary Machine Chest	WAC 173-401-532(98)
667	PM No. 14 Broke Stock Chest	WAC 173-401-532(98)
668	PM South Raw Stock Chest	WAC 173-401-532(98)
669,669A	Liq Alum Tank PM North/South	WAC 173-401-533(2)(s)
670,671	Wet Strength Tank South/North	WAC 173-401-533(2)(s)
672	Primary 3rd Stage Accepts Tank	WAC 173-401-532(98)
673	PM No. 14 Sec. Machine Chest	WAC 173-401-532(98)
674	PM MCC GL Vent East	WAC 173-401-532(9)
675	PM No. 14 Vacuum Pumps	WAC 173-401-532(107)
676	PM No. 13 Vacuum Pumps	WAC 173-401-532(107)
677	PM No. 13 Stock Chest	WAC 173-401-532(98)
678	PM No. 13 Seal Pit to Wire Pit	WAC 173-401-532(106)
679	PM No. 13 Air Makeup for Cooling Vacuum Pump Area	Inlet
680	PM MCC Vent South	WAC 173-401-532(9)
681	PM No. 14 Bell Liner Vacuum Pumps	WAC 173-401-532(106)
682	No. 14 PM MCC Air Vent N	WAC 173-401-532(9)
683	Steam Relief Valve No. 14 PM	WAC 173-401-532(87)
684	PM No. 14 Air Makeup	Inlet
685	PM No. 14 Size Press Starch Tank	WAC 173-401-533(2)(s)
686	Air Makeup for PM No. 14	Inlet
687	14 PM No. 14 Size Press Svc Tank N	WAC 173-401-533(2)(s)
688	North Tile Starch No. 14 Storage Tank	WAC 173-401-532(6)
689	South Tile Starch No. 14 Storage Tank	WAC 173-401-532(6)
690	Size Press Svc Tank	WAC 173-401-533(2)(s)
691	PM No. 14 MCC Forced Air Makeup, South Vent in Wall	WAC 173-401-532(9)
692	Hydraulic Oil Reservoir	WAC 173-401-533(2)(t)

Inventory No.	Emission Unit Description	Criteria
693	Used Oil Portable Tanks	WAC 173-401-533(2)(t)
694	PM No. 13 Repulper	WAC 173-401-532(98)
695	PM No. 14 Repulper	WAC 173-401-532(98)
696	Air Makeup for PM No. 13	Inlet
697	East/West Starch Slurry Tanks	WAC 173-401-533(2)(s)
698	Starch Cook Tanks	WAC 173-401-533(2)(s)
699	PM MCC with Vents	WAC 173-401-532(9)
700	PM Office Vent N	WAC 173-401-532(46)
701	Sand Blaster PM	WAC 173-401-532(55)
702	Welding Booth No Hood	WAC 173-401-532(33)
703	No. 13 Repulp Chest	WAC 173-401-532(98)
704	Vent for PM No. 13 Chest at GL	WAC 173-401-532(98)
705	No. 14 Round Chest	WAC 173-401-532(98)
706	PM No. 14 Sec Decker Cyl and Vat	WAC 173-401-532(98)
707	PM No. 14 Pri Decker Cyl and Vat	WAC 173-401-532(98)
708	Wet End Control Booth	WAC 173-401-532(9)
709	Lab with South Air Vent	WAC 173-401-532(9)
710	PM Dilute H ₂ SO ₄ Tank	WAC 173-401-533(2)(s)
711	Fan for Air Cooling No. 14 PM	Inlet
712	White Tank Dil H ₂ SO ₄	WAC 173-401-533(2)(s)
713	Blue Tank	WAC 173-401-533(2)(s)
714	Control Room Upper Level	WAC 173-401-532(9)
715	Restroom PM Vent	WAC 173-401-532(48)
716	Microform Tank	WAC 173-401-533(2)(s)
717	PM No. 13 Control Booth	WAC 173-401-532(9)
718	PM No. 14, New Control Room	WAC 173-401-532(9)
719	Size Storage Tank N/S	WAC 173-401-533(2)(s)
720	Color Makeup Tanks	WAC 173-401-533(2)(s)
721	Dilute Size Storage Tanks UL	WAC 173-401-533(2)(s)

Inventory No.	Emission Unit Description	Criteria
722/722A	UL White Tanks (2)	WAC 173-401-533(2)(s)
723	PM No. 13 Save All Cylinder & Vat	WAC 173-401-532(98)
724	Tank Gray	WAC 173-401-533(2)(s)
725	Caustic Tank	WAC 173-401-533(2)(s)
726	Color System Storage Tanks Nos. 2 and 3	WAC 173-401-533(2)(s)
727/727A	Color System No. 13 Left/Right	WAC 173-401-533(2)(s)
728	Calendar Tank N/S	WAC 173-401-533(2)(s)
729	Control Booth (PM) Vent	WAC 173-401-532(9)
732	PM Air Makeup for Machine Floor Above Grinder Room	Inlet
733	PM Roof Vent Powered ABC	WAC 173-401-532(9)
734	Air Makeup for PM Machine Room Drying End. Above Handling and Shipping	Inlet
735	Portable Vent Fan, Shipping Roof	WAC 173-401-532(9)
736	Paper Machine Clay & Filler Tank 1 through 4	WAC 173-401-533(2)(s)
737	Paper Machine Shower, Restroom Locker	WAC 173-401-532(48)
738	Paper Machine Oil House	WAC 173-401-532(3)
739	Paper Machine Air Compressor	WAC 173-401-532(88)
740	Paper Machine Type D Roto Clone	WAC 173-401-532(88)
741	Paper Machine MCC 7G	WAC 173-401-532(9)
742	Double Line Kraft (DLK) Recycle Plant Screen Feed Tank	WAC 173-401-532(98)
743	Shipping Dep. Paper Machine Offices	WAC 173-401-532(9)
744	Paper Machine, Machine Level Restroom Vent	WAC 173-401-532(48)
745	Paper Machine Office, Vent	WAC 173-401-532(46)
746	DLK Bowel and Vibrating Screen	WAC 173-401-532(98)
747	Engineer Offices and Paper Machine Offices and Restrooms	WAC 173-401-532(46)
749	Paper Machine Quality Offices and Paper Lab Testing Offices	WAC 173-401-532(46)
750	Purchasing Offices and Restrooms	WAC 173-401-532(46)
751	Propane Storage Tank	WAC 173-401-532(87)

Inventory No.	Emission Unit Description	Criteria
752	Black Liquor Spill Collection Tank	WAC 173-401-532(93)
753	Turpentine Storage Tank	
755	Parts Cleaners (Total of Eight)	WAC 173-401-532(33)
756	BP Chiller Bldg. Vents, East Side	WAC 173-401-532(9)
757	Personnel Office Restrooms with Vents	WAC 173-401-532(48)
758	Men's Locker Room and Restroom with Vents (Below Personnel)	WAC 173-401-532(48)
759	Women's Locker Room and Restroom with Vents	WAC 173-401-532(48)
760	Restroom Near Effluent Monitoring Lab	WAC 173-401-532(48)
761	Administration Bldg. Restroom, Lower Level	WAC 173-401-532(48)
762	New Pulp Testing Lab	WAC 173-401-532(51)
763	Water Lab Hood Vent	WAC 173-401-532(51)
764	Water Lab Sink Power Vent	WAC 173-401-532(51)
765	Old Pulp Testing Lab, Window Vents	WAC 173-401-532(51)
766	AOX Lab Hood Vent (Power)	WAC 173-401-532(51)
767	NCG Relief Stack in Case of Diaphragm Failure	Normally Closed
768	Air Fresh Supply Makeup Fan for Instrument and Electric Shop	Inlet
769	Restroom Vent	WAC 173-401-532(48)
770	Weld Shop Roof Vent Fan	WAC 173-401-532(33)
771	Carpenter Shop Roof Vent Fan	WAC 173-401-532(33)
772	Pipe Shop, Pulp Mill Welding Booth, Vent Fans	WAC 173-401-532(33)
773	Machine Shop Area, Women's Restroom Vent	WAC 173-401-532(48)
774	Men's Locker, Shower, Restroom	WAC 173-401-532(48)
775	Machine Shop Welding Booth, Power Vent	WAC 173-401-532(33)
776	Paint Shop Vent Fan	WAC 173-401-532(33)
777	Car Shop Two Vent Fans	WAC 173-401-532(33)
778	Effluent Lift Pump Bldg. Wall Vent	WAC 173-401-532(9)
779	Chip Screen Control Room Vent	WAC 173-401-532(46)

Inventory No.	Emission Unit Description	Criteria
780	Chip Screen Room Door/Wall Vent	WAC 173-401-532(9)
781	Diesel Fuel Storage Tank Above Ground	WAC 173-401-533(2)(t)
782	Hydraulic Oil Tank West	WAC 173-401-533(2)(t)
783	Unox Effluent Line Vents	WAC 173-401-532(120)
784	Unox Reactor Vents (See NCASI Study)	WAC 173-401-532(120)
785	Gasoline Tank 4000 Gallons	WAC 173-401-533(2)(c)
786/781	Diesel Tanks 4000 Gallons	WAC 173-401-533(2)(c)
787	PM No. 13 Water Shower for Vacuum System	WAC 173-401-532(106)
788	Chip Test Station Outside Air Supply	Inlet
789	Chip Test Station Chip Dry (Oven, Two Each)	WAC 173-401-532(51)
790	South Rail Dump Room Vent	WAC 173-401-532(9)
791	South Rail Dump Restroom Vent	WAC 173-401-532(48)
792	Old Chip Test Station Vent Fan	WAC 173-401-532(51)
793	West Truck Dump Restroom Vent	WAC 173-401-532(48)
794	Chip Pile MCC Room Vent	WAC 173-401-532(9)
795	Primary Clarifier	WAC 173-401-530(1)(d)
796	No Unit Assigned	
797	Warehouse, Two Door Vents	WAC 173-401-532(9)
798	Chip Pile	WAC 173-401-530(1)(d)
799	Oil Barge Unloading Room Window Vent	WAC 173-401-532(9)
800	Chip Barge Unloading Barge Stair Vent	WAC 173-401-532(9)
801	Main Trailer Conference Room Restroom Vent	WAC 173-401-532(48)
802	Accounting Office Restroom, Lower Level	WAC 173-401-532(48)
803	Credit Union Restroom, Vent	WAC 173-401-532(48)
804	Learning Center Air Makeup	WAC 173-401-532(46)
805	Water Meter House Vent	WAC 173-401-532(9)
806	Natural Gas Meter House Vent	WAC 173-401-532(9)
807	North Secondary Clarifier	WAC 173-401-530(1)(d)
808	South Secondary Clarifier	WAC 173-401-530(1)(d)

Inventory No.	Emission Unit Description	Criteria
809	Cryogenic Oxygen Bldg. Vents	WAC 173-401-532(9)
810	UNOX Control Room & MCC Bldg. Vents	WAC 173-401-532(9)
811	UNOX Recycle Pump Bldg. Vents	WAC 173-401-532(9)
812	UNOX Recycle Pump Bldg. Power Vent Fan	WAC 173-401-532(9)
814	"A" Gate Air Makeup System	Inlet
802A	Accounting Bldg. Wall Vents in Roof	WAC 173-401-532(46)
815	Sanitary Treatment Chemical Storeroom Vent	WAC 173-401-532(46)
816	Secondary Effluent Line Vent	WAC 173-401-532(120)
817	Secondary Treatment/Dewatering Diesel Emergency Generator	WAC 173-401-533(2)(f)
818	Fire Water Diesel Pump	WAC 173-401-533(2)(f)
900	OCC Pulper Hood	WAC 173-401-532(98)
901	OCC Pulper Trash Well	WAC 173-401-532(98)
902	OCC Pulper Purge Screen	WAC 173-401-532(98)
903	OCC Whitewater Heat Exchanger Vent	WAC 173-401-532(94)
904	OCC Chest Vent Fan	WAC 173-401-532(98)
905	OCC Primary Forward Cleaner Sumps (3)	WAC 173-401-532(94) WAC 173-401-532(110)
906	OCC Secondary Forward Cleaner Sump	WAC 173-401-532(94) WAC 173-401-532(110)
907	OCC Tertiary Forward Cleaner Sump	WAC 173-401-532(94) WAC 173-401-532(110)
908	OCC Primary No. 1 Reverse Cleaner Sumps (4)	WAC 173-401-532(94) WAC 173-401-532(110)
909	OCC Primary No. 2 Reverse Cleaner Sumps (4)	WAC 173-401-532(94) WAC 173-401-532(110)
910	OCC Dissolved Air Flotation (DAF) Clarifier	WAC 173-401-530(1)(d)
911	OCC DAF Clarifier Polymer Tank	WAC 173-401-532(117)
912	OCC Decker Hood	WAC 173-401-532(110)
913	OCC Decker Shower Filter	WAC 173-401-532(110)
914	OCC High Density Storage Chest	WAC 173-401-532(98)

Inventory No.	Emission Unit Description	Criteria
915	OCC H.D. Dilution Tank	WAC 173-401-532(98)
916	OCC Grits Tank	WAC 173-401-532(110)
917	OCC Sand Separator	WAC 173-401-532(110)
918	OCC Sand Separator Dumpster	WAC 173-401-532(110)
919	OCC Rejects Sorter	WAC 173-401-532(98) WAC 173-401-532(110)
920	OCC Rejects Distribution Belt	WAC 173-401-532(98) WAC 173-401-532(110)
921	OCC Rejects Screw Conveyor	WAC 173-401-532(98) WAC 173-401-532(110)
922	OCC Rejects Dumpster	WAC 173-401-532(98) WAC 173-401-532(110)
923	OCC Rejects Sump	WAC 173-401-532(98) WAC 173-401-532(110)
924	OCC Pulper Sump	WAC 173-401-532(98)
925	OCC Screen Feed Chest Sump	WAC 173-401-532(98)
926	OCC High Density Chest Sump	WAC 173-401-532(98)
927	OCC Process Area "U" Drain	WAC 173-401-532(94)
928	Woodmill Clarifier	Abandoned
929	No. 2 Washer hood exhaust No. 1 / vibratory knotter	Abandoned
930	No. 2 Washer hood exhaust No. 2	Abandoned
931	No. 2 Washer hood exhaust No. 3	Abandoned
932	No. 3 Washer hood exhaust No. 1	Abandoned
933	No. 3 Washer No. 3 hood exhaust No. 2	Abandoned
934	Washer No. 3 hood exhaust	Abandoned
935	Washer Line No. 3 decker	Abandoned
936	Washer Line No. 4 secondary knotter	Abandoned
937	Knot tank knotter	Abandoned
938	Weak black liquor oxidizer tank, converted to weak black liquor tank	WAC 173-401-532(93)
939	HVLC system pressure / vacuum breakers	Normally closed

Inventory No.	Emission Unit Description	Criteria
940	HVLC rupture disc vents	Normally closed
941	CBOP steam line - reliefs and vents	Normally closed
942	Turbine generator project - steam vents	Normally closed
943	Turbine generator project 337,420 ADUBT/yr Kraft Pulp - pressure relief valves	Normally closed
944	Cogeneration Turbine generator building vents	WAC 173-401-532(9)
945	Cooling Tower water sump	WAC 173-401-532(94)
946	Weak Wash Pressure Filter	WAC 173-401-532(99)
947	White Liquor Pressure Filter	WAC 173-401-532(103)
948	UNOX Oxygen Plant Water Cooling Tower	WAC 173-401-532(121)
949	Pulp Storage Tank Transfer Decker	WAC 173-401-532(98)

[illegible]

FIGURE 2. WESTROCK TACOMA MILL SITE MAP

APPENDIX B: Emission Inventory

The below table summarizes the data that WestRock Tacoma submitted to Ecology for calendar year 2019 per General Condition 31 of their permit issued on December 1, 2011.

TABLE 35. 2019 EMISSIONS INVENTORY TABLE

Emission Unit	PM¹ tpy	PM₁₀¹ tpy	PM_{2.5}¹ tpy	SO₂ tpy	NO_x tpy	VOC tpy	CO tpy	TRS tpy	Lead tpy
Cooling Tower	0	0.2	0.2	0	0	0	0	0	0
Recovery Furnace No.4	48.7	48.7	48.7	1.9	360.3	23.7	938.2	1.3	0.0028
Smelt Tank No. 4	23.1	23.1	23.1	4.3	0	18.9	3.7	5.7	0.011
Lime Kiln No. 1	45.9	45.9	45.9	0.28	34.8	1.1	2.7	2.5	0.014
Lime Kiln No.2	18.4	18.4	18.4	0.16	4.29	0.1	0.3	0.5	0.0018
Causticizer/Slaker Vent	1.6	1.6	1.6	0	0	0	0	0	0
Bleach Plant Scrubber	0	0	0	0	0	4.5	75.6	1.3	0
Boiler No.6	2.7	2.7	2.7	0.92	71.6	2.7	41.8	0	0.00025
Power Boiler No. 7	11.2	9.3	6.2	215.2	539.5	27	569.2	0	0
WWT Primary Clarifier	0	0	0	0	0	4.3	0	1.0	0.0035
Pulp Drying	1.1	1.0	0.7	0	0	14.5	0	0	0
Paper Machine 13	0	0	0	0	0	8.4	0	0	0
Paper Machine 14	0	0	0	0	0	10.9	0	0	0
TOTAL	152.7	150.9	147.5	222.8	1010.5	116.2	1631.5	12.4	0.033

1. Filterable PM, PM10, PM2.5

APPENDIX C: Response to Comments

[Ecology will complete this section after the public notice of draft period.]